JANUARY 1953

ARCHITECTURAL RECORD

Istanbul Hilton Hotel

ARCHITECTS' OFFICES—BUILDING TYPES STUDY NUMBER 194

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THE RECORD REPORTS

PERSPECTIVES

WHITHER ARCHITECTS? Dean Joseph Hudnut of Harvard, on the West Coast for a series of lectures on the University of California's Berkeley campus, told reporters that in the city of the future the architect will have disappeared, to be replaced by the industrial engineer. Architects? They will find their work in the future confined to suburbs and rural areas or to cities that are not industrialized. *The Daily Pacific Builder*, F. W. Dodge Corporation newspaper in San Francisco, reported Dean Hudnut's assertion that 50 per cent of the nation's architects now are industrial engineers, creating designs that stress utility and economy rather than art.

FRANK LLOYD WRIGHT on records: a letter from Taliesin announces that the Frank Lloyd Wright Foundation is about to release a series of long-playing records containing the talks of the master to and with the Taliesin Fellowship and other talks made from time to time throughout the country. The records (one of them already on its way here, we hope) are "ready for release by popular subscriptions."

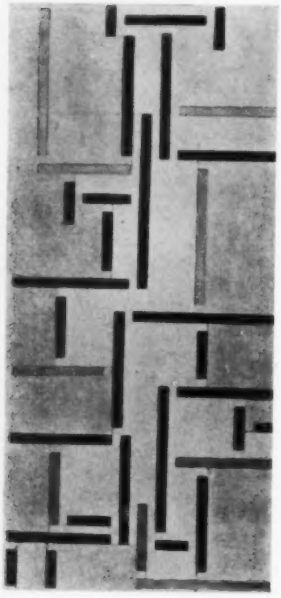
"BROTHER, THIS IS SOMETHING": as the first architectural commentary from the President-elect, Ike's spontaneous tribute to the United Nations Headquarters in New York is worth noting. In his first tour of the most controversial architectural project of a generation, General Eisenhower displayed his customary inquisitive, energetic and direct reaction to a new experience. He asked a great many questions — he appeared fascinated by such details as the "holes" in the ceilings for light and air ducts and the earphones that bring every speech to the wearer in his choice of six languages. As to his position on the more delicate issues of the esthetic realm, proponents of the most untrammeled "expression" will be forced to agree with Ike's comment that "to be modern you don't have to be nuts," while traditionalists can take comfort from the reports that puzzlement was the General's major reaction to Fernand Leger's large abstract murals for the Assembly hall.

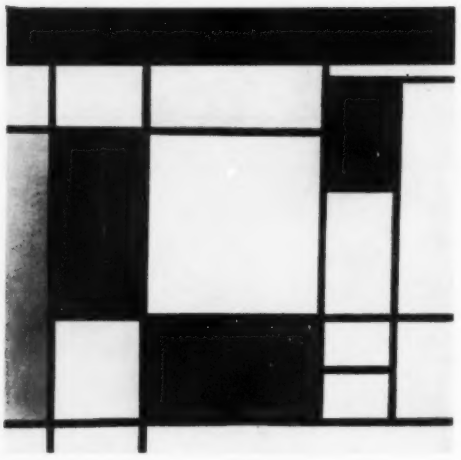
UNESCO likes the "giant radiator": at a turbulent general conference in Paris, beset by major crises over budget and the resignation of the UNESCO director and the executive chairman, it was voted to accept the Breuer-Nervi-Zehrfuss scheme for UNESCO's Paris headquarters and to ask the French government for a new site. The French promptly re-offered the Place de Fontenoy site which they and UNESCO had agreed was "unsuitable" after seeing the first building plans prepared by Eugene Beaudoin, French architect, last spring. The present plans (ARCHITECTURAL RECORD, Dec. 1952, pages 11–14) were designed for a site on the Bois de Boulogne and were rejected by the French a few weeks before the UNESCO meeting because officials felt the 16-story building would interfere with the view of the Arc de Triomphe. At the time, the French appeared to take a less than admiring view of the design itself, which they said looked like a "giant radiator" and would clash with the traditional architecture of Paris.

ON THE HORIZON: the shape of the future, forever tantalizing, becomes an irresistible subject for speculation with the advent of every new year. An "educated guess" on "the ten greatest fields of opportunity for America after the defense program has passed its peak" is made by *York Report*, a newsletter circulated among top corporation executives by the York Engineering & Construction Company and the York-Gillespie Manufacturing Company of Pittsburgh. The ten fields: 1. fuel from atomic energy; 2. electronic brains; 3. push-button factories; 4. the engineered home; 5. television advances; 6. the small car; 7. new metal processes; 8. advances in rare earths; 9. antibiotics and farm chemicals; 10. better plastics.

CHERCHEZ LE CHARACTÈRE: Architect Edgar Williams was the main speaker at the dinner opening the first of three national Gold Medal exhibitions planned this year at the Architectural League of New York. Mr. Williams, while he called craftsmanship "the essence of the artist's equipment," suggested advice of one of his professors of many years ago — cherchez le charactère! — was still the criterion for judging any work of art. Mural decoration, sculpture and design and crafts in native industrial arts were represented in the exhibition, which was surprisingly small. No awards were announced at the dinner; all the Gold Medal awards this year will be made known at the final dinner in June.

REQUIRED READING: *The New Yorker's* profile series called "The Palm Beach Architect" on the fabulous Addison Mizner ("Construction first, blueprints later"). Four articles written by the late Alva Johnston before his death in 1950 were published in the November 22 and 29 and the December 6 and 13 issues. Anybody here remember the Florida boom?





Left: Van Doesburg's "Rhythm of a Russian Dance," 1918.
Above: "*Composition*," 1920 painting by Piet Mondrian

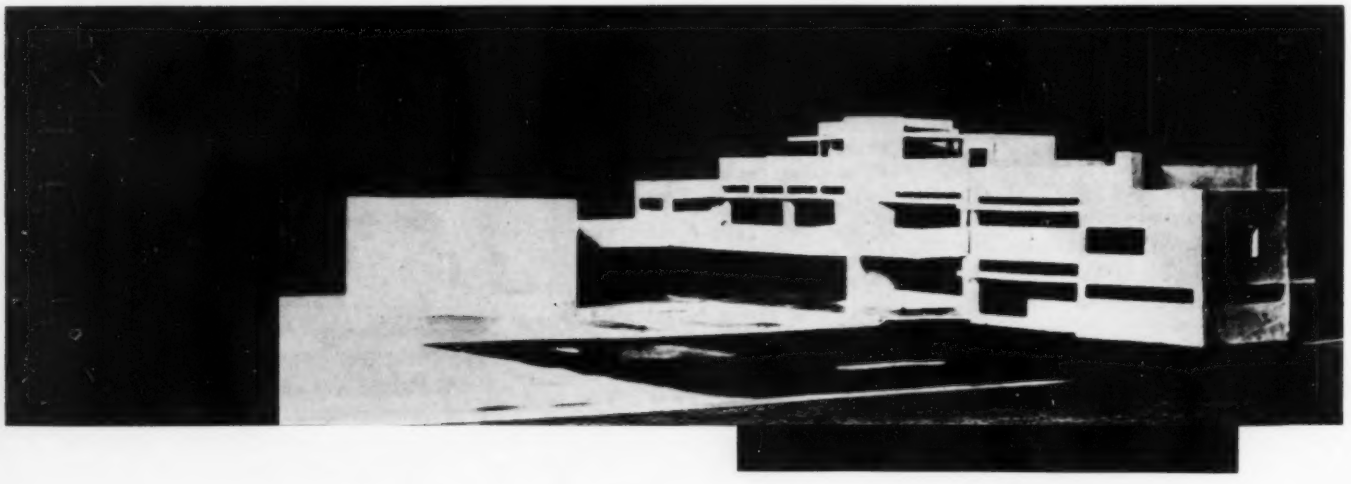
DE STIJL: A RETROSPECTIVE EXHIBITION

NEW YORK'S MUSEUM OF MODERN ART HOLDS SHOWING OF ITS ART, ARCHITECTURE, DESIGN

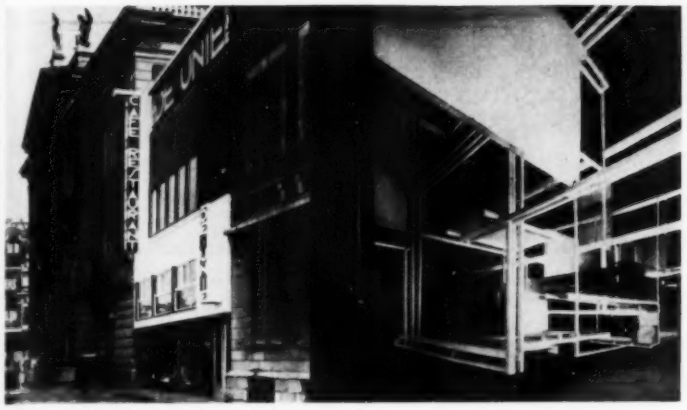
On view at the Museum of Modern Art until February 15 is a comprehensive exhibition of the work of the *de Stijl* group, the primarily Dutch group of artists and architects who together played an important formative part in the evolution of that phase of modern architecture known as the International Style.

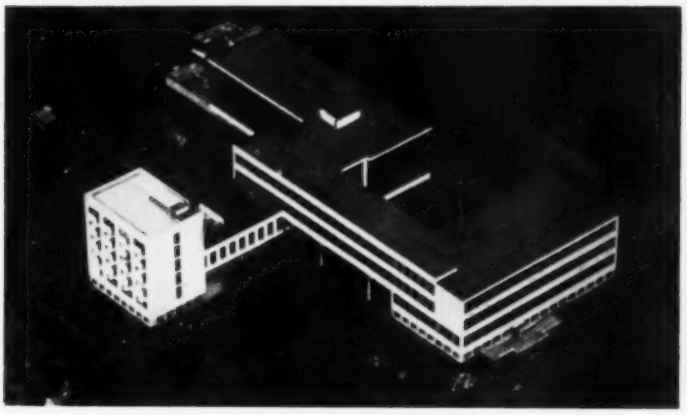
The show is the first historical retrospective exhibit given the group in this country. It includes examples of its paintings, sculptures, architecture, typography and furniture, by such well-known members of the group as Van Doesburg, Mondrian, Oud, Rietveld and Vantongerloo, and by lesser-known figures. Work by contemporary artists and designers which reflects the movement is included to exemplify its continuing influence.

The exhibition was designed by Rietveld, who brought it to New York from Amsterdam and Venice, where it had already been shown. It is being displayed here under the sponsorship of the Dutch government.

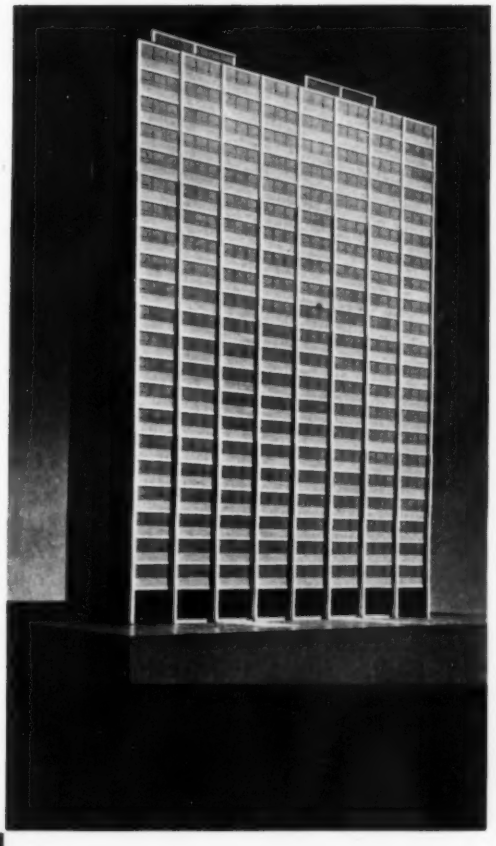


Above: painting into architecture. Model of Rosenberg House, designed 1923 by Van Doesburg and Van Eesteren

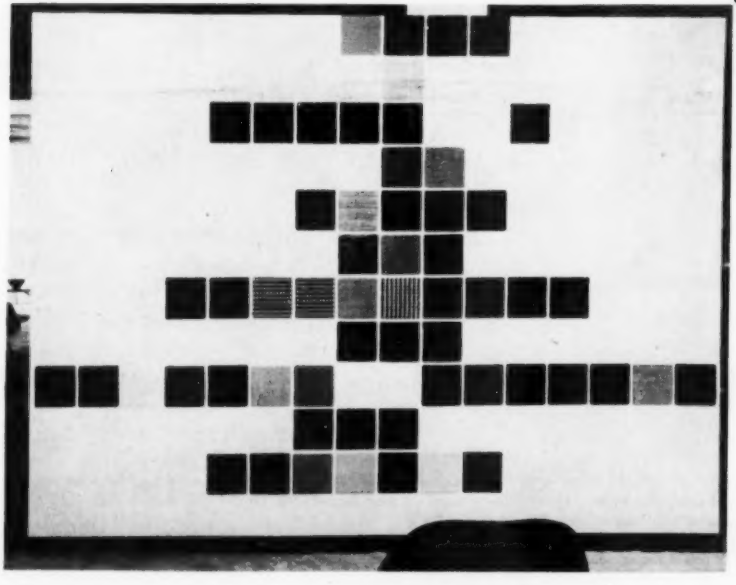




Above left: the composed façade. J. J. P. Oud's CAFÉ DE UNIE, Rotterdam, 1925. Above right: DE STIJL abroad. Kiesler's CITY IN SPACE 1925. Right, top: DE STIJL in the plan. Gropius' BAUHAUS, Dessau, 1925–26. Right: the continuing influence. Chicago apartment building by Mies van der Rohe, 1949



Above: DE STIJL principle of separation of elements continued. Harvard Graduate Dormitory, Gropius with Architects' Collaborative, 1949. Below: DE STIJL in display. Fabric display at Knoll Associates, New York, is directly in the tradition



JOINT PLANNING STANDARDS DEVELOPED FOR BUILDING PROGRAMS OF ALL ARMED FORCES

By Ernest Mickel

FRANK R. CREEDON, the country's new director of all defense installations, is moving rapidly toward a coordination of the military public works programs both here in the United States and abroad.

His first project as a construction coordinator in the Department of Defense has been to select those types of military structures which were most repetitive in the programs of the three services and begin work on planning standards to assist architects in calling for bids. Mr. Creedon, himself an engineer, is known to favor employment of architects to the fullest extent in carrying out the multi-billion dollar building programs of Army, Navy and Air Force.

Barracks Standards First

Three-story permanent barracks were put down as first order of business as far as planning standards were concerned, and the guides for this type of building now are complete. Standards for bachelor officers' quarters, mess halls and warehouses are being worked on. With approval of the Secretary of Defense, already assured, all these will be made mandatory for all the services. Guides for one- and two-story permanent housing for enlisted men were worked out immediately following completion of the three-story category to get the standards on residential work out of the way ahead of the BOQ, mess halls and warehouses.

The installations office does not mean for these standards to hamstring architects. They will serve to aid in his preparation of plans and the handling of bids, but Mr. Creedon believes the architect should be encouraged to use his ingenuity in adapting any project to site, climate and other local conditions.

Since Congress established the new post in the military public works authorization act signed last July 14 with the idea of putting some control on spending for these huge programs, the director has approached his task with this in mind. That is why he chose repetitive structures and those involving largest expenditures to work on first. Preference was given in the order in which their repetition and use of taxpayers' dollars occur. Like many members of Congress, Mr. Creedon is convinced that more money must be saved in the military installations programs and he is determined that it will be. His general approach to the problem received quick approval from the Budget Bureau and the Secretary's office.

Engineering Studies Planned

The planning standards form only the more immediate schedule in the new office. While these are being drafted, Mr. Creedon and his staff are at work on long-range objectives which will include preparation of complete engineering studies of each station where new construction is sought in the firm programs to be laid before Congress. This again looks toward savings in total outlay; Mr. Creedon hopes to remove a lot of the confusion surrounding justification of projects to Congress and to put some brakes on the pyramiding of military public works spending toward the end of fiscal periods.

Creedon Given Broad Scope

He will perform many other duties in his capacity as adviser to the Secretary. A directive from Secretary Lovett has outlined his functions as follows:

1. Maintain direct surveillance over planning and construction.
2. Report to the Secretary as necessary regarding the status and progress of such projects.
3. Develop the department's policies and coordinate activities of the military departments in recording inventories, utilization and condition of facilities in existence, under construction, and authorized and funded.
4. Develop policies for computation of program requirements, issue instructions and guidance to the military departments for preparation of programs, recommend to the Secretary those to be approved and presented to Congress, and assist in preparing and presenting to Congress proper appropriation and authorization requests.
5. Develop uniform design criteria and construction standards with emphasis on cost reduction.
6. Resolve conflicts between military departments regarding single or adjacent installations.

Will the Services Help?

The installations office program is so vast, with its planning, programming, expediting, project scheduling and refereeing service that it will take time to get the course completely charted. The important thing to Mr. Creedon at this stage is cooperation from the three services. He reports he is getting this.

MILITARY PUBLIC WORKS—FISCAL 1953

Service	New Obligational Authority	Appropriations	Obligated July–Oct.
Army	$ 585,510,000	$ 585,510,000	$118,745,000
Navy	363,285,000	363,285,000	185,974,000
Air Force	1,200,000,000	1,245,335,000*	462,544,000
Totals	$2,148,795,000	$2,194,130,000	$767,263,000

** The Air Force appropriation included $45,335,000 cash for the liquidation of prior contract authority, bringing the balance seen in the figures for the other two services to the Air Force as well by the end of the fiscal term.*

HHFA SURVEY: GENERAL CHARACTERISTICS OF HOUSES

Characteristic	1940 U.S. Average	First Half of 1950 U.S. Average	Region 1	2	3	4	5
1-story	67	86	66	98	84	99	98
1½- and 2-story	33	14	34	2	16	1	2
Full basement	55	36	58	2	67	*	13
Partial basement	14	3	4	2	2	*	4
Utility room—no basement	31	20	23	15	27	14	20
Neither basement nor utility room		41	15	81	4	85	63
Calculated average area in sq ft:							
All houses	1177	983	1012	975	980	960	970
1-story	1009	941	888	969	920	961	967
1½- and 2-story	1523	1252	1254	1201	1266	914	1074
Number of bedrooms							
1 bedroom	na	1	1	*	1	1	*
2 bedrooms	na	65	57	70	75	65	53
3 bedrooms	na	33	41	29	23	33	46
More than 3 bedrooms	na	1	1	*	1	1	*

** Region 1 comprises Northeastern states; 2 the Southeastern states; 3 the Midwest; 4 the Southwest; and 5 the Far West. Figures are percentages, except as noted. An asterisk indicates the percentage is less than 0.5; n.a., that the data is not available.*

WHAT KIND OF HOUSES DOES FHA INSURE?
NEW SURVEY PROVIDES SOME ANSWERS

DETAILED REGIONAL DATA on materials use patterns in house construction in the United States was compiled in the study just completed by the Housing and Home Finance Agency and published as a monograph: "The Materials Use Survey, a study of the national and regional characteristics of one-family dwellings built in the United States in the first half of 1950." The monograph also presents for the first time material quantities used in the production of 1000 single-family detached houses built in the first half of 1950.

The source selected naturally produced a sample consisting largely of the builder-type house — the average floor area of the 1000 houses, for example, was 983 sq ft (see table) — and the study cannot be taken to reflect very much about the character of the architect-designed house of today, except as builder houses may be influenced by it and as builders who employ architects are influenced by them. The data will be most helpful to builders, materials producers and suppliers.

The houses studied were selected at random from the files of a total of 50 Federal Housing Administration offices throughout the country. The sample included only new single-family detached houses processed for mortgage insurance by FHA under Title II, Section 203, on which construction was started in the first six months of 1950. The period was selected as the most recent one from which a use pattern unaffected by materials shortages and credit controls arising from Korea could be derived.

Broader interest, however, attaches to the details of the wide regional differences which persist in spite of mass production of so many of the basic components of a house. Basements and porches, for example: in the Middle Atlantic states, most houses had basements, in the Southwest few had them; in the East few houses had porches, in the Southwest most had them.

NEW YEAR FOR BUILDING: NPA EASES METAL CURBS

RECREATIONAL BUILDINGS, schools and hospitals, commercial building and housing all get a lift from the National Production Authority's announcement last month that relaxations of controls on steel and copper previously scheduled for May 1 would instead be effective January 1. Because drought conditions in the Pacific Northwest and the Tennessee Valley have caused power shortages and cut aluminum production, aluminum controls will not be relaxed before May 1.

Under the new revision of CMP regulation 6, the ban on recreation building in effect since Oct. 26, 1950 was lifted and per-quarter self-authorization up to five tons of steel and 500 lb of copper was provided; commercial buildings, schools and hospitals and radio and TV stations were classified with industrial buildings and thus allowed to self-authorize up to 25 tons of steel, 5000 lb of copper and 2000 lb of aluminum per quarter; home builders for the first time since CMP were authorized to use structural steel, up to 1500 lb per unit; and apartment house builders were allowed to self-authorize steel, up to three tons, and copper, up to 225 lb, per building.

—Drawn for the RECORD by Alan Dunn

"My dear fellow, don't you know? — Nowadays it's the 'plan,' not the 'elevation'—"

NEW PROJECTS FOR INDUSTRY, RESEARCH, TV

Building on a mountain: Welton Becket has capitalized on a problem site in designing this seven-story plant for the Hallmark Greeting Card Company on the edge of Kansas City's business district — street-level docks on every floor and street-level parking for 500 cars on the roof. Top floor (188,950 sq ft) will overlay entire mound; floor area decreases at each level so ground floor is only 17,750 sq ft. Over-street bridge will connect old plant, to be remodeled, and new structure

Trane Company's new research and testing laboratory in La Crosse, Wis., will include facilities for duplicating temperature, humidity, pressure and air movement conditions anywhere in the world. Among its features will be model rooms to study heating, cooling, ventilation and humidity control for schools, hospitals, hotels, offices and home; a 40-ft-high bay at the south end will house large test setups. Magney, Tusler & Setter are architects

"A new conception in metal and glass," according to the sponsors, is to be embodied in a $10 million amusement and commercial development for the New York City block bounded by Broadway and Seventh Avenue, 51st and 52nd streets. Emery Roth & Sons, Architects, have designed the proposed 25-story building containing offices, studios for television broadcasting, and a parking garage on two basement levels and part of two levels above ground. Office "wings" will be set back after eight to ten floors of store, garage and studio space

Adolph Studly

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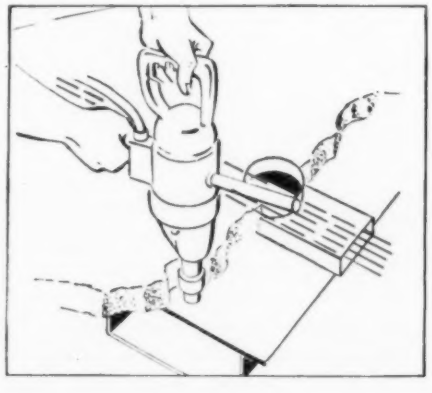
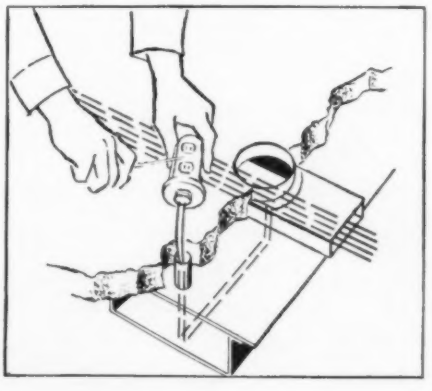


◄ A hole is simply drilled down through the finished floor into the cellular subfloor. Floor outlet tubing is installed. Cover is removed from handhole of crossover duct and wires fed down and wires fed through raceway to the drilled hole.

Wires are pulled up through drilled hole and outlet installed. Floor is never torn up, business goes on as usual. You have electrical availability in any square foot of floor . . . any time. As many as 15 outlets in the area occupied by a single desk. ►



Fenestra Nepco ELECTRIFLOORS

New York Coliseum would be part of the $40 million redevelopment project to include two 12-story apartment houses on a super block bounded by Columbus Circle (at left in photo), Columbus Avenue (opposite), 58th and 60th Streets

SLUM CLEARANCE MAY BRING CONVENTIONS TO NEW YORK

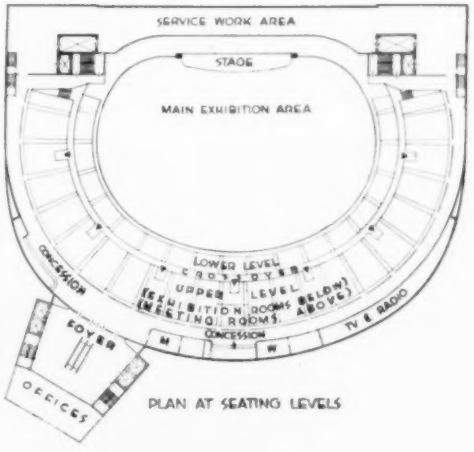
NEW YORK CITY's long-proposed convention center may get under way this year with the aid of Federal funds under Title I of the Housing Act of 1949.

The $40 million project involves clearance of old buildings in the Columbus Circle area and redevelopment in two sections: "middle-income" housing for 528 families to be built by "reliable private interests" and the New York Coliseum financed and constructed by the Triborough Bridge and Tunnel Authority, of which Robert Moses is chairman.

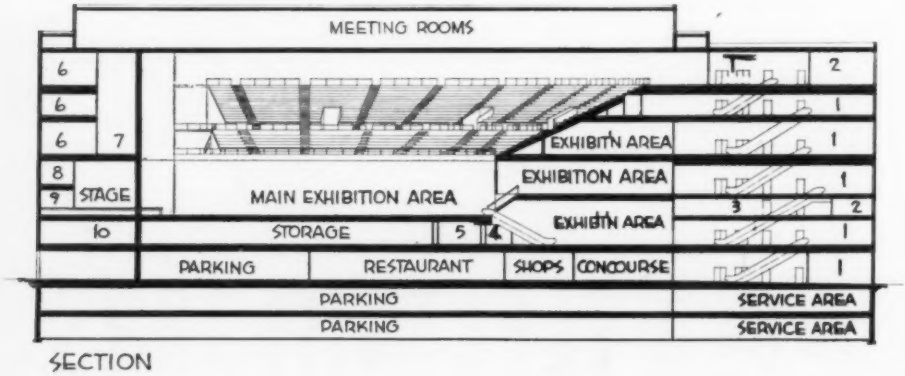
The ubiquitous Mr. Moses is also chairman of the Committee on Slum Clearance Plans; Leon and Lionel Levy are architects; Skidmore, Owings & Merrill, co-ordinating architects.

The preliminary plans shown here were approved by the City Planning Commission last month after a public hearing which produced some dissenting views on the design of the Coliseum. A representative of the West of Central Park Association called the proposed Coliseum "an oversized salt box" and "inadequate to serve the city's needs for convention and exhibition facilities."

The New York Times wished editorially that the Coliseum could be larger, noting that Atlantic City's Convention Hall seats 35,000, but remarked philosophically that "there is a limit to money available, geared to earnings foreseen. . . . We can be happy — and certainly are — to get this fine hall, a tremendous improvement."

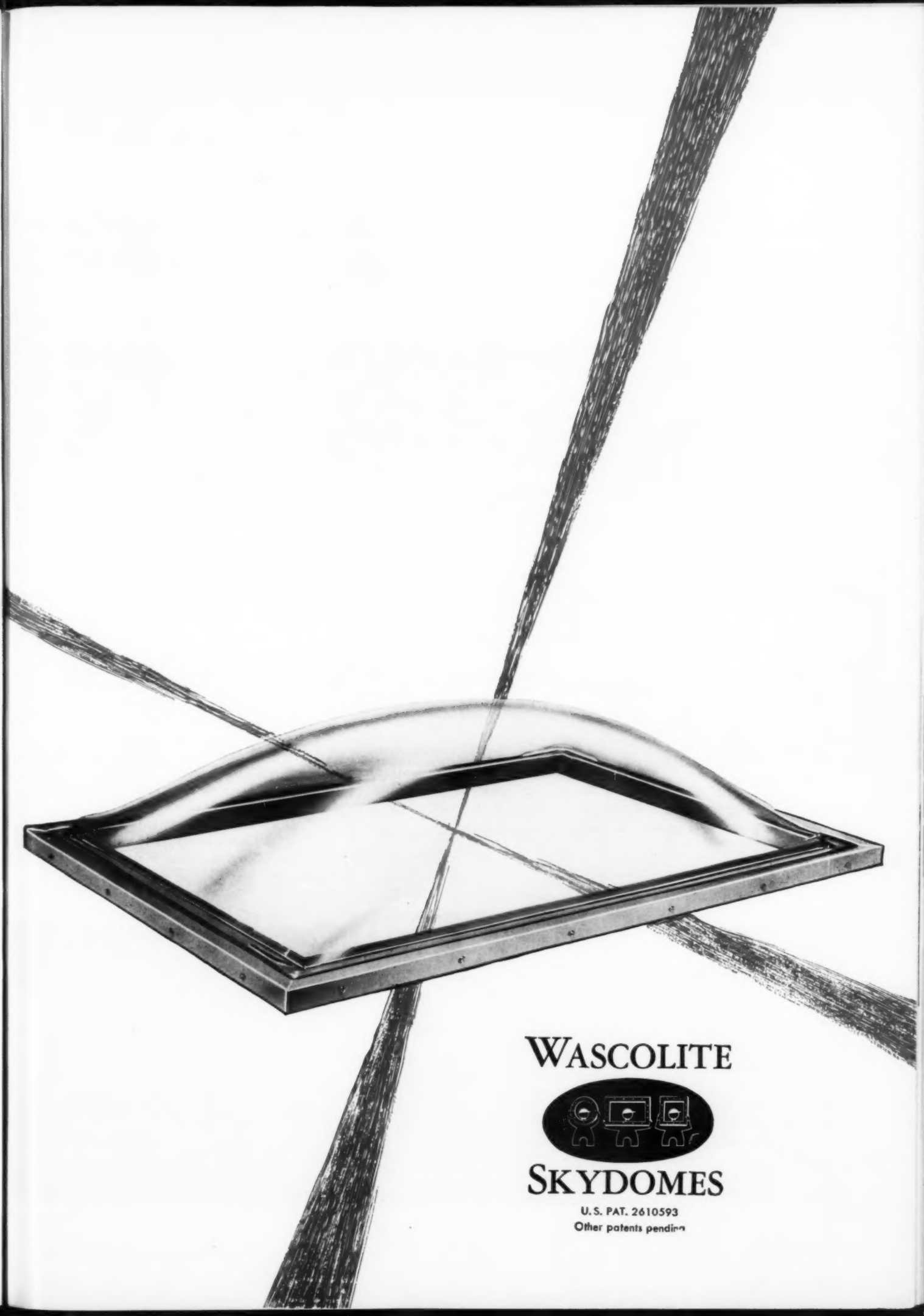


PLAN AT SEATING LEVELS



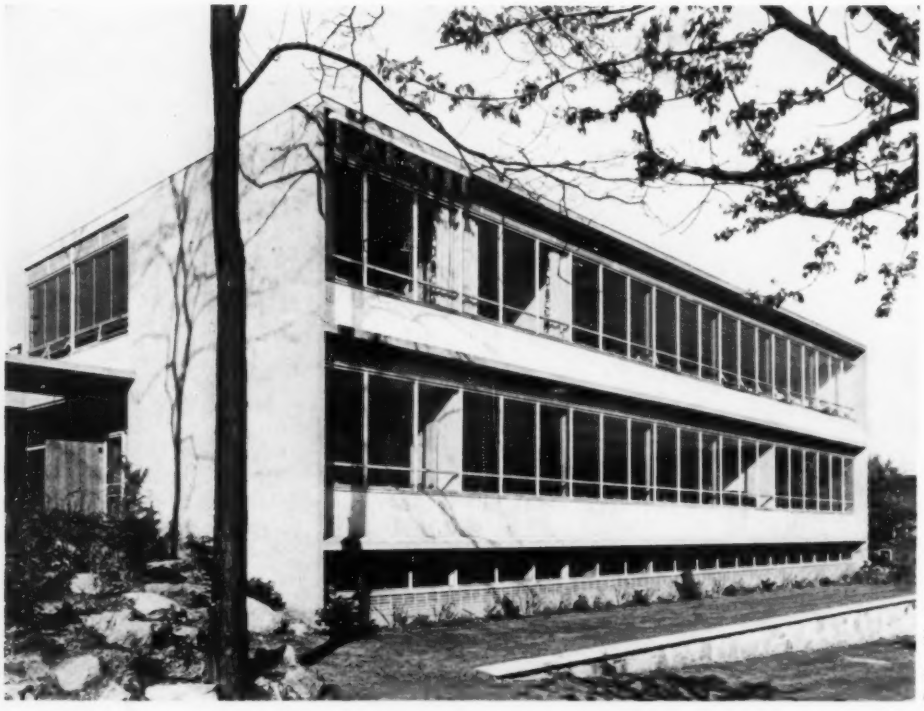
SECTION

Design target was 225,000 sq ft of free area for exhibition, display and show purposes. Concourses are designed so a number of smaller shows can be set up and operated at one time, all served by the same vertical transportation in tower (lower left in sketch above). Balconies have 6000 fixed seats; 12,000 temporary seats can be put in main auditorium (exhibition area) and 7500 more in various meeting rooms. Left: public garage for 800 cars occupies two floors below grade


WASCOLITE
SKYDOMES
U.S. PAT. 2610593
Other patents pending

NEWS FROM CANADA *By John Caulfield Smith*

NINE ARCHITECTS WIN MEDALS IN NATIONAL COMPETITION



Graham Warrington

Gold Medal Award winner in 1952 Massey Competition is an office structure, the Marwell Building in Vancouver, B. C. Architects for the building are Semmens & Simpson of Vancouver

WINNERS have been announced in the second nationwide competition sponsored by the Massey Foundation and administered by the Royal Architectural Institute of Canada. The awards are made in recognition of outstanding examples of Canadian achievement in architecture and are intended to help promote public interest in the work of Canadian architects.

A total of nine awards was made this year, one gold medal for the outstanding entry in the competition and eight silver medals in separate categories. The contest was judged by a jury composed of John B. Parkin, Toronto architect, Prof. John A. Russell, director of the School of Architecture of the University of Manitoba, and Pietro Belluschi, dean of architecture and planning at the Massachusetts Institute of Technology.

This year's gold medal award went to Semmens & Simpson, Vancouver, B. C., for the Marwell Office Building in that city. Another Vancouver firm, Sharp & Thompson, Berwick, Pratt, won three silver medals for buildings erected in the city. These included awards for residences costing up to $15,000 (residence of Dr. Copp), commercial buildings (rental office for Tilden Drive Yourself,

(*Continued on page 26*)

Panda

Two of the Silver Medal winners: far right, Municipal Offices, York Township, Ont., which won in municipal and governmental buildings category; architects, Shore & Moffat, Toronto. Winner in apartment house category was building (right) in Forest Hill Village, Toronto; architect, Gordon S. Adamson, Toronto

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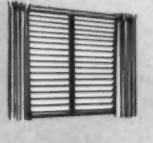


Pella VENETIAN BLINDS

Above: Silver Medal, recreational buildings—War Memorial Gymnasium, U. of British Columbia, Vancouver; architects, Sharp & Thompson, Berwick, Pratt, with Fred Lasserre, consultant. Below: same firm won Silver Medal for residences under $15,000 for residence of Dr. Copp, Vancouver

THE RECORD REPORTS

(*Continued from page 24*)

Ltd.), and recreational buildings (War Memorial Gymnasium, University of British Columbia). Fred Lasserre served as consultant for the latter building.

Still another award was won by a Vancouver firm, a silver medal for residences costing more than $15,000. This went to Davidson & Porter for a residence for John C. H. Porter, West Vancouver, B. C.

Other silver medal awards were made in these categories: *apartment houses*, Gordon S. Adamson, Toronto, Ont., for an apartment building at 130 Old Forest Hill Road, Forest Hill Village, Ont.; *ecclesiastical buildings*, Philip Carter Johnson, London, Ont., for the Knox Presbyterian Church, Goderich, Ont.; *educational buildings*, Craig & Madill, Toronto, Ont., for a high school in Marmora, Ont.; and *municipal buildings*, Shore & Moffat, Toronto, Ont., for the municipal offices, York Township, Ont.

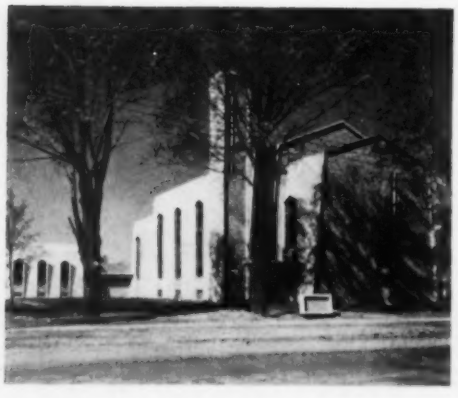
Awards were presented at the opening of an exhibition of competition entries at the National Gallery in Ottawa. The presentations were made by the Gov-

(*Continued on page 30*)

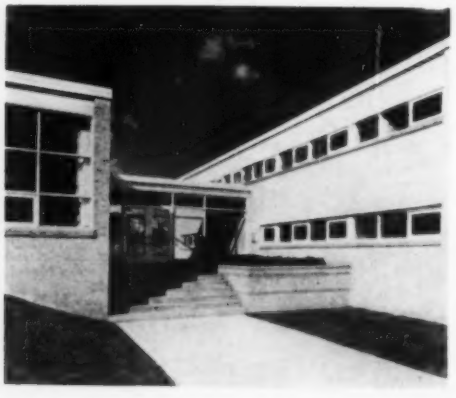
Right: Silver Medal winner, commercial buildings—Tilden Drive Yourself, Ltd., Vancouver, B. C.; architects, Sharp & Thompson, Berwick, Pratt, Vancouver. Far right: Silver Medal, residences over $15,000—John C. H. Porter residence, West Vancouver, B. C.; architects, Davison & Porter, Vancouver

Tony Archer

Ron Nelson



Panda



Far left: Knox Presbyterian Church, Goderich, Ont., won Silver Medal for religious structures; architect, Philip Carter Johnson, London, Ont. Silver Medal for educational buildings went to Marmora, Ont., High School (left); architects, Craig & Medill of Toronto, Ont.

Stainless Steel construction at Fairless Works

4005 sq. ft. of panels installed by crew of 4 in 8 working days

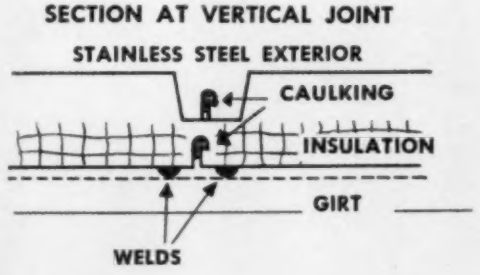
CONSTRUCTION with insulated building panels of U·S·S 17 (Type 430) Stainless Steel is gaining considerable momentum in the field of industrial building—such as power plants, factory office buildings, warehouses, etc. Architects and owners alike have been quick to recognize the advantages of light panel weight, long building life, minimum maintenance, low labor costs and fast erection in any type of weather.

The building shown here is a Stainless-panelled fire station at the new Fairless Works of United States Steel Corporation at Morrisville, Pa. The 66′ x 100′ structure contains 4005 square feet of insulated panels of 20 gage U·S·S 17 Stainless Steel.

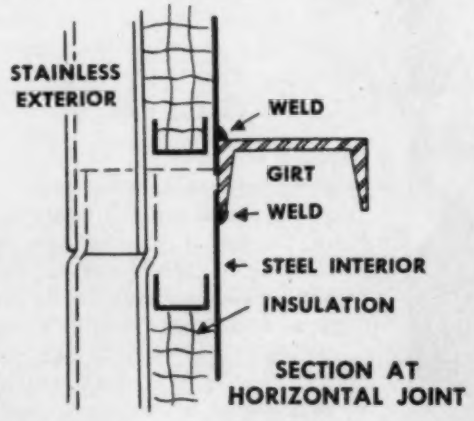
A crew of four men erected the panels under adverse weather conditions in less than eight working days. The panels, consisting of U·S·S 17 (Type 430) Stainless Steel exterior, 1½″ of insulation and a coated steel sheet interior, were attached to the structural steel framework by spot welding, a fast and strong method of installation. U·S·S 17 (Type 430) is readily available without CMP tickets.

Note the cross-sectional sketches of the horizontal and vertical joints. As indicated in the sketches, caulking is applied to the vertical joints prior to erection. This provides an excellent vapor seal and is therefore instrumental in reducing the over-all "U" factor. The cross section of the vertical joint illustrates how the lower panel is counter sunk to gain a tight flush joint at the lap.

A new book containing the latest information on construction with panels of U·S·S 17 Stainless Steel is now being distributed. For your copy, use the coupon below.



THESE DETAILS of panel cross sections show methods of making horizontal joint (below) and vertical joint (above). Such methods of joining, combined with the low" U" factor designed into these panels, produce an exceptionally well insulated building.



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UNITED STATES STEEL

CANADA (*Continued from page 26*)

ernor-General, the Rt. Hon. Vincent Massey, C. H., who acted also for the Massey Foundation, of which he is a trustee.

Entries in the competition consisted of photographs and drawings illustrating buildings designed by Canadian architects and built since 1945. The entries were divided into 15 categories, but awards were not made in every category this year. Entries for the competition totaled 200, twice as many as were received for the previous competition.

The exhibition of entries will tour other Canadian cities and art centers after leaving Ottawa.

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Concrete Products Official Urges Housing Coordination

Establishment of a housing industry council which would bring together suppliers of goods and services for home building is being urged by Walter C. Coupland, president of the National Concrete Products Association, Toronto.

"This tremendously important segment of our economy does not speak with a united voice, and therefore does not enjoy the respect and influence that it should," Mr. Coupland has declared. Even though most of the enterprises which make up the housing industry have their own trade associations, Mr. Coupland feels that this is insufficient, and that the approach must be a broader one to encompass the many trades, sub-trades and supply businesses which are part of the housing industry.

New Residential Construction Registers Upward Trend

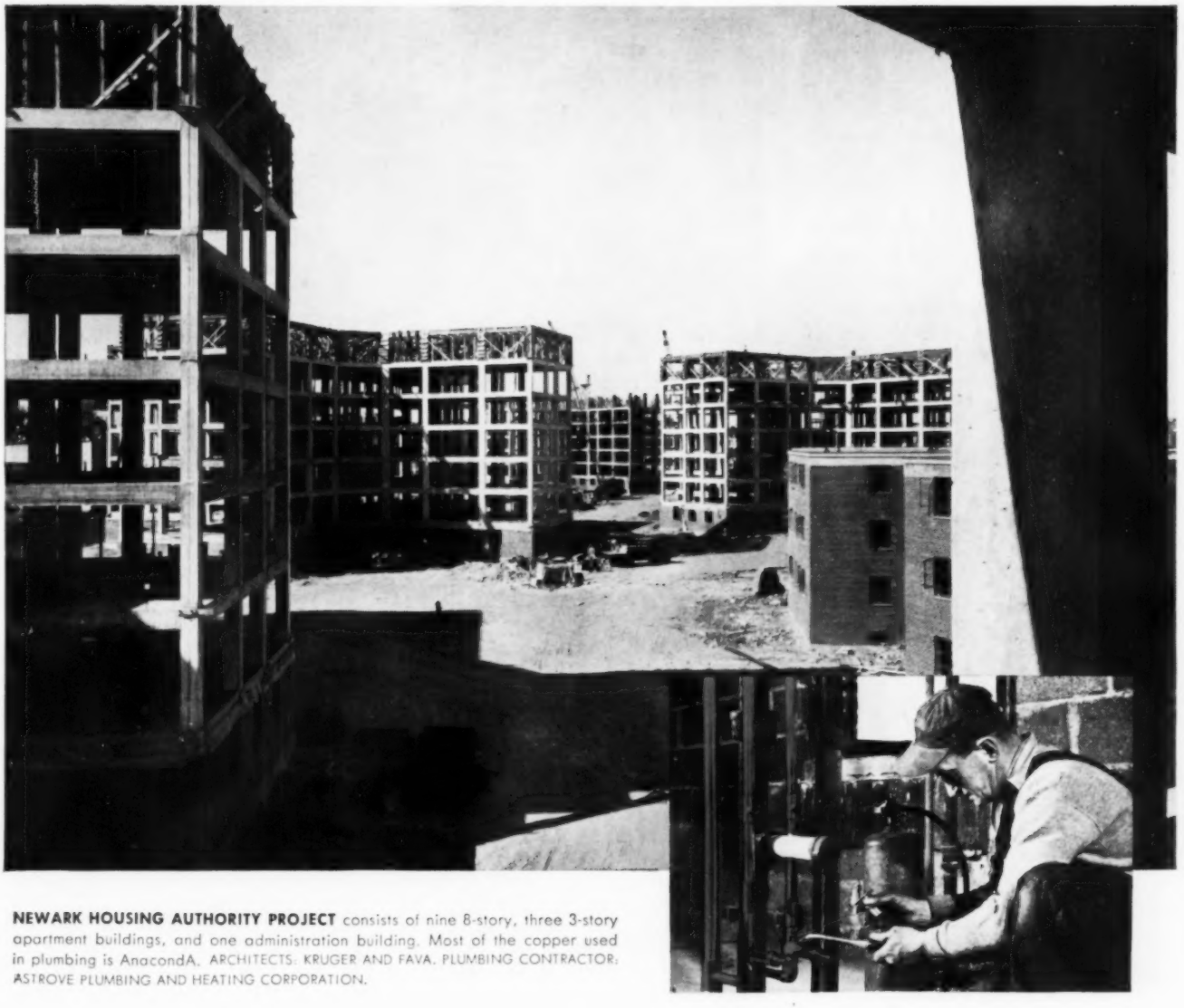
Housing starts in Canada showed an upward trend in May, June and July of this year, totaling 29,700 dwellings, an increase of eight per cent above the number of starts for the corresponding period of 1951. This recovery followed a decline in house building activity during the preceding months. According to the latest issue of "Housing in Canada," a quarterly report published by Central Mortgage & Housing Corporation, it was accompanied by an increased flow of institutional mortgage money, increased lending activity under the National Housing Act, and the levelling off of overall building costs during the past year.

Mortgage Loans Up

While the value of mortgage loans approved on all types of property during the first half of 1952 was 12 per cent less than in the same period of 1951, the value of all loans approved for May and June of this year totaled about $100 million — a 17 per cent rise over May and June of 1951. This recovery was most evident in loans for new residential construction.

During the first eight months of this year, lending operations under the National Housing Act were on a progressively rising scale, reversing the downward trend of the late months of 1951. Beginning with April 1952, when the number of dwellings approved for loans equalled those of April 1951, relative monthly gains continued until, in

(*Continued on page 32*)



NEWARK HOUSING AUTHORITY PROJECT consists of nine 8-story, three 3-story apartment buildings, and one administration building. Most of the copper used in plumbing is AnacondA. ARCHITECTS: KRUGER AND FAVA. PLUMBING CONTRACTOR: ASTROVE PLUMBING AND HEATING CORPORATION.

How little savings can become BIG

"Here at the Newark Housing Authority Project, copper tube economy pays off in a big way."

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Easy bending on the job is just another reason why copper is so popular for so many uses in building construction. Copper is ideal for both heating and plumbing lines. At the Newark project 46,811 feet, or over 14 tons, of ⅜" to 3" ANACONDA Copper Tubing were used in the plumbing system. Type L (hard) was specified for all interior plumbing lines; Type K for the service lines from the main through the foundations in each building.

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CANADA

(*Continued from page 30*)

August, this year, the number of dwellings approved for loans was two and a half times the total for August 1951. The value of loans approved under the act during the first eight months of 1952 amounted to $173 million, compared with total loans valued at $125 million during the corresponding period of 1951.

Murray Sklar of Toronto was the architect for this plant and office building for Uniforms Registered, Toronto. The plant has been built with provision for adding a complete second floor. It is masonry-bearing construction with steel beams and wood joists. Radiant heating is used for the entire building

Investment at Peak

During the first six months of 1952, capital investment in the form of new construction rose to a new peak level for the period. In terms of 1951 dollars, the value of new construction work totalled $1.21 billion, an increase of three per cent over the previous high for the period, the $1.18 billion expended in the first half of 1951. The record volume of overall construction activity in the first half of 1952 took place without a corresponding rise in building costs. By the end of July 1952, the combined index of wholesale prices of residential building materials and hourly wage rates of construction workers continued to increase, but the effect of this was partly offset by a decline in the price of some building materials.

Immigration of skilled construction workers was higher during the first six months of 1952 than for any corresponding period in the postwar years, numbering 4300 tradesmen, 35 per cent more than entered Canada in the comparable period of 1951, which saw the previous postwar peak. Carpenters, bricklayers and electricians continued to make up the largest of the trade groups, representing, respectively, 37, 22 and 17 per cent of the total of skilled construction workers.

(*More news on page 36*)

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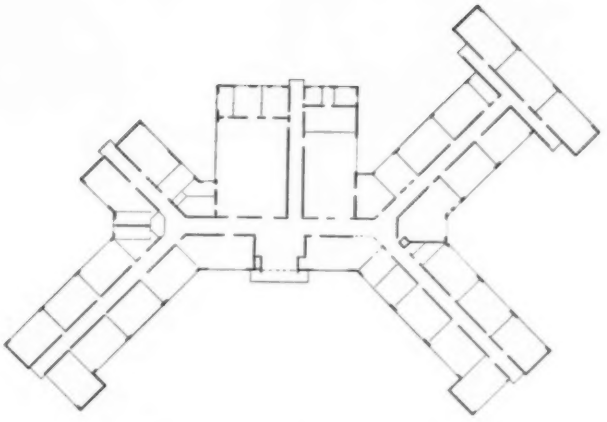
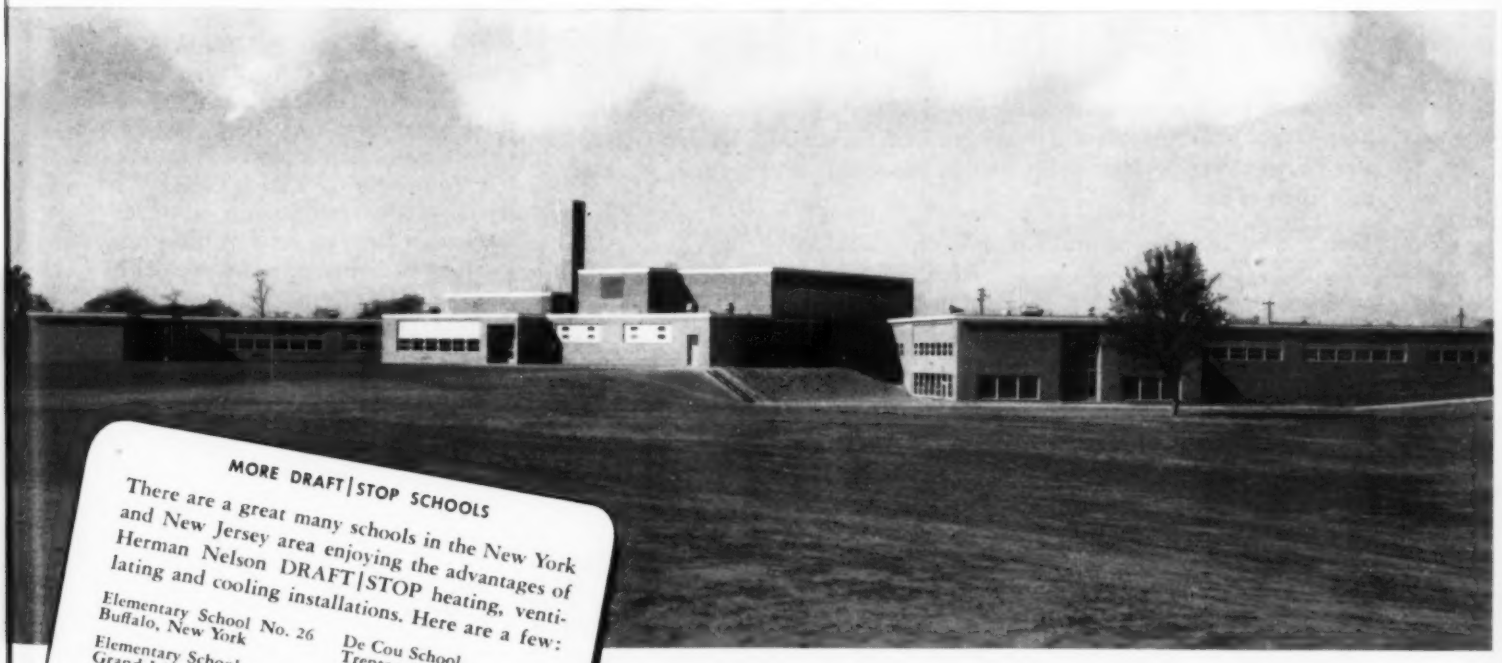


Floor plan of the new Smith Street School.



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Amos Harrison School, Livingston, N. J.
Florham Park School Add'n, Ridgedale Avenue, Madison, N. J.
De Cou School, Trenton, N. J.
Fredon Twp. School, Fredon Twp., N. J.
Milton Avenue School, Chatham, N. J.
Pingry School, Hillside, N. J.
Joseph S. Stokes Memorial, Trenton, N. J.
Hammond Central School, Hammond, New York
Hauppauge School Addn., Long Island, New York
Jordan H. S. Addition, Jordan, New York
Honeoye Falls Central School, Honeoye Falls, New York

Smith Street School, East Hempstead, L. I., N. Y. Supervising Principal, Dr. John J. Forester; Architect, Frederic P. Wiedersum; Consulting Engineer, Foster & Cafarelli; Mechanical Contractor, Berwind & Co.

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THE RECORD REPORTS

(*News continued from page 32*)

CLEVELAND CONSIDERING BELT CONVEYOR SUBWAY

A 3300-ft belt conveyor passenger subway beneath Euclid Avenue between Public Square and Playhouse Square in downtown Cleveland has been recommended to the city by William C. Reed, chairman of the Board of the Cleveland Transit System.

The Cleveland subway would use the same type of conveyor belt equipment designed by the Goodyear Tire and Rubber Company for the proposed Grand Central-Times Square subway shuttle in New York City, but would incorporate two intermediate stops between the Terminal Tower and the Playhouse Square terminus at 14th Street. The design calls for the use of small passenger cars riding on high speed main conveyor belts and slow speed belts at loading and unloading points.

Mr. Reed said cost of the conveyor system was estimated to be only a little more than half that of a proposed conventional transit loop for Cleveland's downtown section.

Cleveland is now constructing a 13-mile east-west rapid transit line to supply an estimated 32 million people annually with transportation to and from the Terminal Tower Station at the Public Square end of Euclid Avenue. The proposed conveyor subway would distribute a large segment of these commuters to downtown stores and offices.

Money to construct the conveyor link is not now available; but Mr. Reed urges that means be found to raise it.

Cleveland conveyor belt passenger subway would have small passenger cars riding on high speed main conveyor belts, with slow speed belts at loading and unloading points

(*More news on page 38*)

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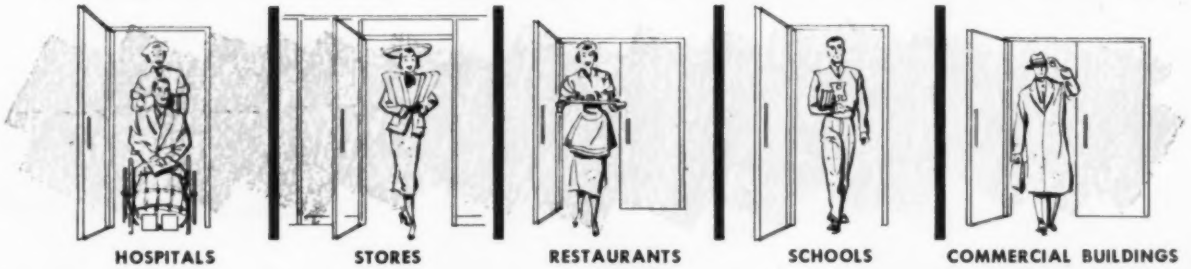

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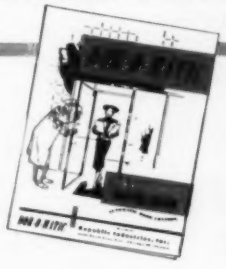

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By Ernest Mickel

NEW IDEAS, NEW FACES: CHANGE IS IN THE AIR

Advice Instead of Direction, With Economy the Keynote — Military Building to Rise

As a nation agog with the excitement of its first change in Federal Administration in 20 years awaited the official Republican kickoff on January 20, Washington was a city of rumors and resignations. The Commodore Hotel in New York, Eisenhower headquarters till Inauguration, was the new focus of national plans and appointments.

What about government and government-aided construction programs under the new régime? Economy was sure to be the watchword in Congressional scrutiny of appropriations requests in these as other areas; defense spending would continue to climb till late this year; and the housing agencies were in for reorganization.

Military: 18% More Building

Military construction was about the only field in which solid predictions were possible (and it remained to be seen what effect the Creedon effort would produce there — see page 12). Current commitments, made on the basis of contract authority already given by Congress, will carry the military planning and spending programs on into fiscal 1954 and 1955 and even beyond. Of the $10,854 million authorized for military construction from July 1950 through August 1952, $8726 million has been appropriated by Congress and only $4895 million obligated by the services. The Departments of Commerce and Labor, in their annual forecast of construction prospects, estimated military and naval new construction activity would climb from $1355 million in 1952 to $1600 million in 1953 (calendar years), an increase of 18 per cent.

Housing: Federal "Cooperation"

A new era in housing was charted in recent remarks of Rep. Jesse P. Wolcott (R-Mich.), who will be chairman of the important House Banking and Cur-

(*Continued on page 244*)

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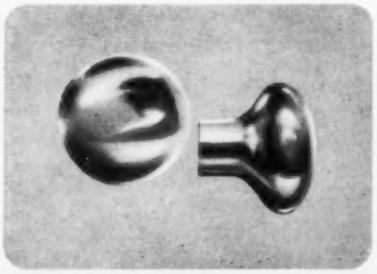
practical, popular NATIONAL LOCKset
Patent Applied

Here are shown just two of the many reasons why architects, builders, contractors, carpenters and home owners are saying "Make it NATIONAL LOCKset".

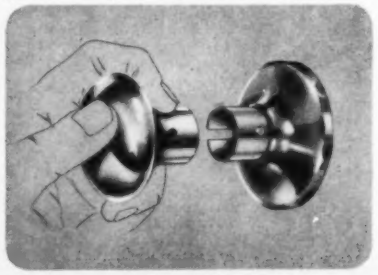
handsome one-piece knob of wrought brass

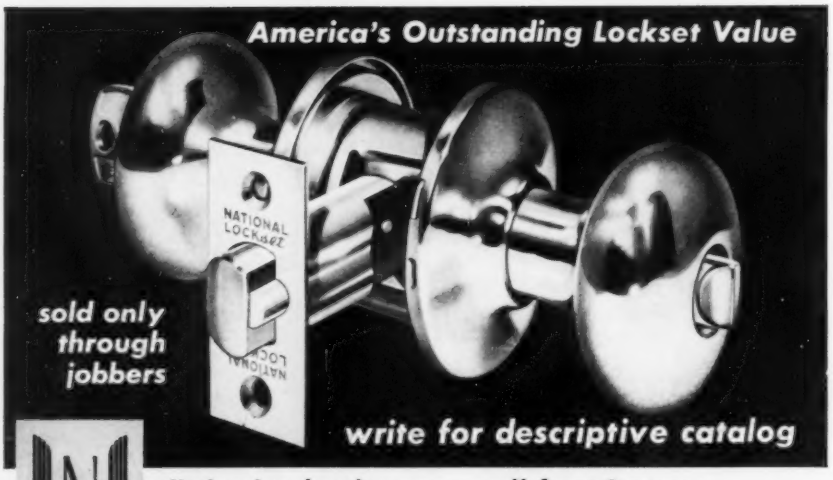
Exquisitely-styled, wrought brass knob. Formed as one piece. Mirror-like finishes protected by long-term varnish. Knob fits the hand perfectly.



knob separate from key and lock mechanism

Forcing knob with tool will not open locked door. Knob absolutely separate from lock mechanism . . . Held in position by spring retaining pin.

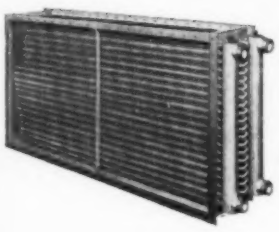




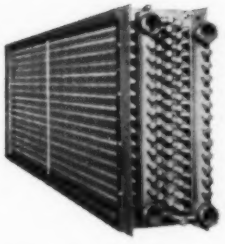
distinctive hardware . . . all from 1 source
NATIONAL LOCK COMPANY
Rockford, Illinois • Merchant Sales Division

Frank W. Cortright, executive vice president of the National Association of Home Builders since the organization was formed in 1942, has resigned because of ill health. He will become a lifetime voting member of the N.A.H.B. Executive Committee, policy-making group from whose membership the association president is chosen, and, on a three-year contract, special consultant to N.A.H.B.

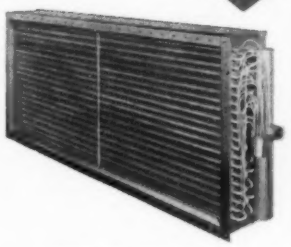
THIS COMPLETE LINE OF FAMOUS McQuay PRODUCTS



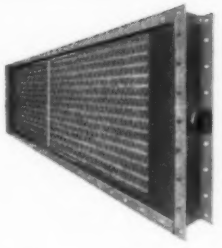
WATER COIL



CLEANABLE TUBE WATER COIL



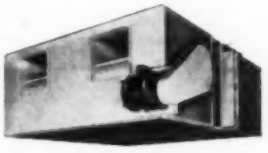
DIRECT EXPANSION COIL



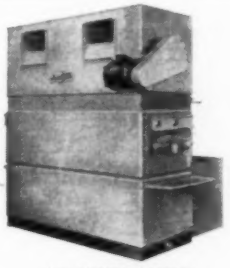
"BLAST" HEATING STEAM COIL

SEASONMAKER (FLOOR)

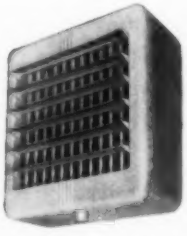
"RH" AIR CONDITIONER



AIR CONDITIONER
(Suspended Model)

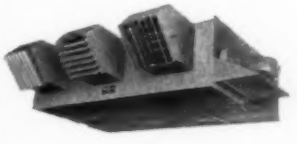


AIR CONDITIONER
(Floor Model)

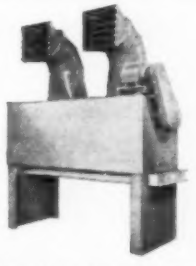


HORIZONTAL UNIT HEATER

DOWN FLOW UNIT HEATER

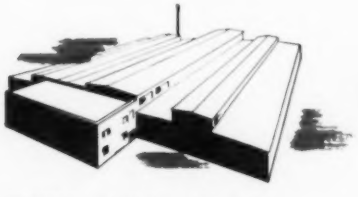


BLOWER TYPE UNIT HEATER
(Suspended Model)

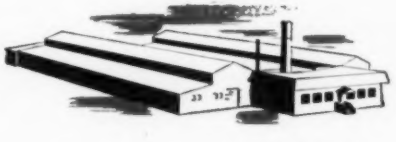


BLOWER TYPE UNIT HEATER
(Floor Model)

McQuay representatives, in all principal cities throughout the United States, are qualified by long experience and training to help you satisfy all of your air conditioning and heating requirements. For cooperation in making the sale, technical advice, or getting the job done on time, consult the McQuay representative in your territory. Available to you through him is the complete line of McQuay products, featuring famous Ripple-Fin construction—a McQuay exclusive, assuring maximum heat transfer efficiency and dependable performance.



PLANT 1—1600 Broadway N. E.
MINNEAPOLIS 13, MINN.



PLANT 2—1729 Broadway N. E.
MINNEAPOLIS 13, MINN.

PLANT 3—4th and Park Ave.
FARIBAULT, MINN.

CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926–1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

Period	Residential Brick	Residential Frame	Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Steel
1925	121.5	122.8	111.4	113.3	110.3
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1940	126.3	125.1	132.2	135.1	131.4
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.4	240.0
1950	256.2	254.5	249.5	251.5	248.0
1951	273.2	271.3	263.7	265.2	262.2
Aug. 1952	279.7	276.6	274.4	276.5	274.3
Sept. 1952	279.7	276.6	274.4	276.5	274.3
Oct. 1952	279.0	275.7	274.3	276.4	274.1
	% increase over 1939				
Oct. 1952	**125.9**	**125.2**	**109.9**	**107.2**	**110.7**

ATLANTA

Period	Residential Brick	Residential Frame	Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Steel
1925	86.4	85.0	88.6	92.5	83.4
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1940	91.0	89.0	96.9	98.5	97.5
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
1951	212.8	214.6	204.2	202.8	205.0
Aug. 1952	219.1	220.7	214.2	211.9	216.8
Sept. 1952	219.1	220.7	214.2	211.9	216.8
Oct. 1952	221.1	223.7	216.2	212.7	218.0
	% increase over 1939				
Oct. 1952	**156.2**	**169.2**	**127.2**	**118.4**	**130.2**

ST. LOUIS

1925	118.6	118.4	116.3	118.1	114.4
1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1940	112.6	110.1	119.3	120.3	119.4
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
1951	252.0	248.3	238.5	240.9	239.0
Aug. 1952	260.7	254.0	253.0	259.1	253.7
Sept. 1952	260.9	254.1	253.5	259.7	254.0
Oct. 1952	260.2	253.2	253.4	259.6	253.8
	% increase over 1939				
Oct. 1952	**136.1**	**136.6**	**114.7**	**116.7**	**113.3**

SAN FRANCISCO

1925	91.0	86.5	99.5	102.1	98.0
1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1940	106.4	101.2	116.3	120.1	115.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
1951	245.2	240.4	239.6	243.1	243.1
Aug. 1952	253.1	248.0	248.2	251.6	253.1
Sept. 1952	252.6	247.8	248.5	251.6	253.2
Oct. 1952	251.3	246.2	248.3	251.4	252.8
	% increase over 1939				
Oct. 1952	**138.0**	**147.9**	**111.5**	**106.2**	**117.0**

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

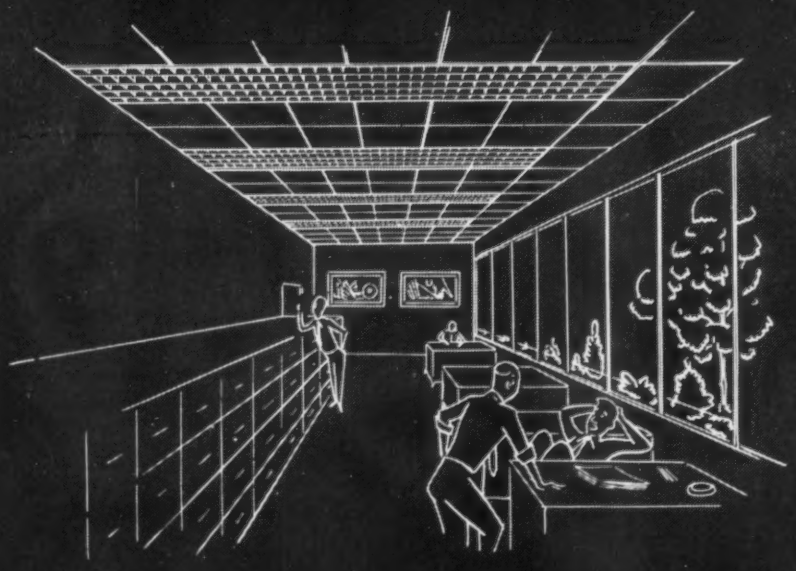
Conversely: costs in B are approximately 14 per cent lower than in A.

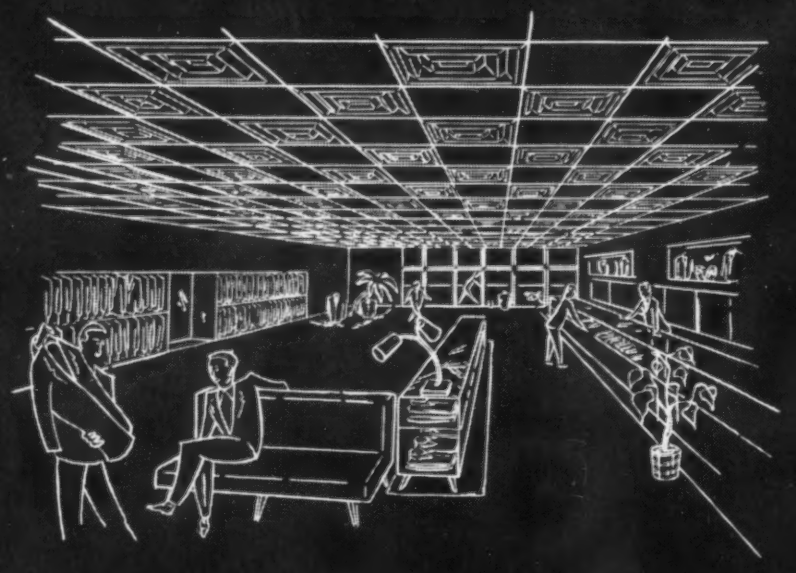
$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

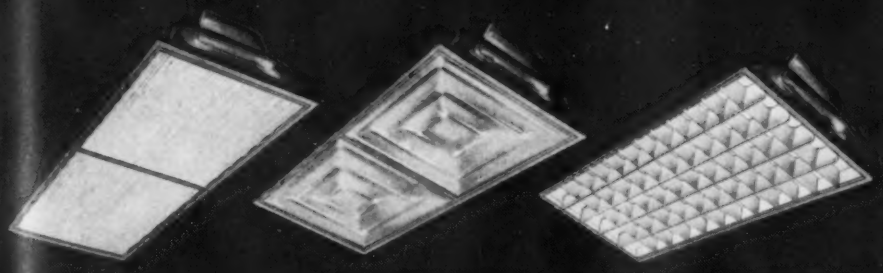
Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear regularly on this page.





a new idea in lighting . . .



GLASS PANELS

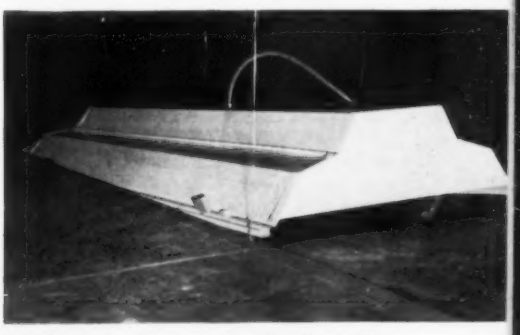
MOLDED PLASTIC PANELS

BOXCO® LOUVERS

Mobilex places in the hands of the architect a new design element . . . a flexible new lighting tool that can help him conceive a thousand and one lighting ideas. You can use Mobilex as single units . . . build unlimited patterns of light . . . or create an entire luminous ceiling. And you can save your client up to 50% while you're doing it.

Mobilex is a recessed fluorescent lighting system. It is designed for use with grid-type suspended ceilings. Interlocking "tee" rails support Fiberglas* Ceiling Boards and Mobilex units. Mobilex is available in 2′ x 2′ or 2′ x 4′ units with a choice of molded plastic, glass or louvered shielding elements.

Mobilex is easy to install. Simply compress the sides of the fixture with "Mobilhooks" and insert it into the grid opening.



The fixture rests on the grid rails. End baffles lock the compression feature into place. No hangers or suspension straps.

Mobilex units may be added or changed at any time. Just remove the ceiling panel and replace it with the Mobilex unit.

"DECIDEDLY BETTER"

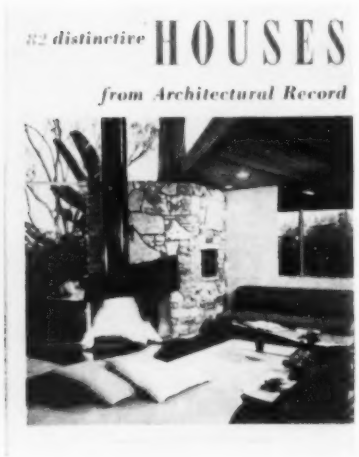
DAY-BRITE®

Lighting Fixtures

Write today for the full Mobilex story. Ask for Bulletin OD-567. Day-Brite Lighting, Inc., 5465 Bulwer Avenue, St. Louis 7, Missouri. In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.

ALSO AVAILABLE FOR USE WITH OTHER TYPE CEILINGS

*®Owens-Corning Fiberglas Corp., Toledo, Ohio



82 DISTINCTIVE HOUSES FROM ARCHITECTURAL RECORD

82 Distinctive Houses from Architectural Record. F. W. Dodge Corporation (119 West 40th Street, New York, N. Y.) 1952. 8¾ by 11⅝ in. 448 pp., illus. Introductory price: $6.50. After February 1 $8.00.

REVIEWED BY
HAROLD R. SLEEPER, F.A.I.A.

Here, under one cover, is ARCHITECTURAL RECORD's selection of American contemporary houses for the past five years. If you design houses, if you work on house designs, or even if you are only interested in houses, it will be a pleasure as well as worth your while to browse through this volume. With this collection of well-selected contemporary houses to review, you may analyze just what we have been doing, and perhaps hazard a guess as to where we are going. You will be stimulated by the variety and ingenuity of the solutions.

Almost all of us have seen these illustrations before. So they are not new in this respect. However, to see a house in a monthly magazine gives a different impact than to see it with 81 other houses. I had followed the past issues of the RECORD, but a surprisingly great number of the houses shown still seem fresh and new. In looking through the magazines monthly I tend to look at what interests me at the time, saying to myself, "I like that," or "Very good, I wonder why he did that," but without any very critical analysis. This book is definitely a barometer of the trend of architect-designed houses, and doubting my primary reactions, I set out to get a few statistics.

These proved to me that we have become stylized, assuming that the selections made by the RECORD were not made because of the style. In days to come the years 1947 through 1951 may well be termed the "Board Age" or more specifically the "Vertical Board Age." This material is used outside — and inside — on walls, ceilings, soffits. As a relief from "boards", stone wall or oversized stone chimney was used for the needed relief. Brick or block is seldom used, and plaster is rare.

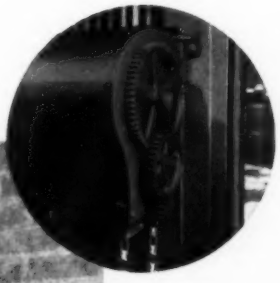
Glass seems to have been skillfully employed for a purpose. It is used for semi-tropical regions, for Maine, Vermont or the Middlewest. This group of houses defies any regional identification. Glass areas are not diminished because of hard winters. Of course, better insulation, storm sash or double glazing and more fuel is the answer. So we are not likely to see any great rebirth of regional architecture.

It is most interesting to note that the fireplace is evidently ensconced to stay. Its flexibility has been increased whereby one fireplace may serve two or three spaces, and its masonry mass accentuated far beyond its practical need for the design effect.

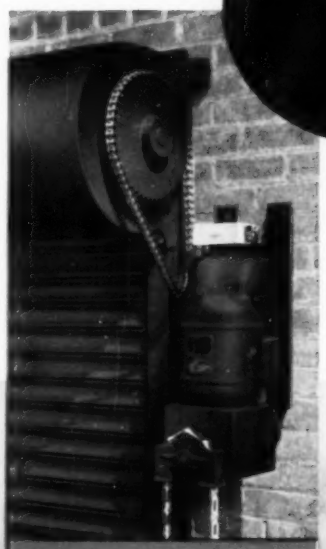
The paucity of materials used in the designs would be relieved, I am sure, if these illustrations were in color, as evidenced by the boldly-colored jacket. Still we can hope for a wider use of other materials both inside and outside in the future. Is the lack of variety in basic materials used because contemporary designers are struggling to avoid being like the "usual" so they automatically shun the use of the materials common to

(Continued on page 48)

Rolling Steel DOORS



MAHON CHAIN-GEAR OPERATOR



MAHON STANDARD POWER OPERATOR 920-P

Manually, Mechanically, or Power Operated

Illustrated below is another excellent example of Rolling Steel Doors installed in a special purpose building where no other type of door would meet the requirements. Because this is a foundry building with high truss clearance, vertical acting doors with no overhead obstructions above the floor adjacent to the door opening were demanded by the owners . . . other requirements were: that the doors shut off no light above the lintel when open, and, that the opening and closing action of the doors occupy no usable space either inside or outside of the door opening. The vertical roll-up action of rolling steel doors met these demands perfectly . . . and, in addition, their all-metal construction provided permanence, better protection against intrusion and fire, and assured the owners a lifetime of continuous trouble-free service. Rolling Steel Doors will meet your requirements better too. But, when you select a rolling steel door, know the facts—check and compare the specifications carefully . . . you will find that Mahon Rolling Steel Doors have built-in extra value features which you will want in the doors you buy. See Sweet's Files for complete information including specifications, or write for Catalog G-53.

THE R. C. MAHON COMPANY

Detroit 34, Michigan • Chicago 4, Illinois • Representatives in all Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Doors and Fire Shutters; Insulated Metal Walls and Wall Panels; Steel Deck for Roofs, Partitions, and Permanent Concrete Floor Forms.

ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Fifteen Mahon Rolling Steel Doors installed in a new special purpose building recently constructed as an addition to a large midwest foundry.

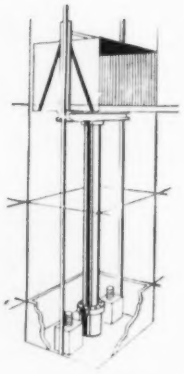
MAHON

Another Globe Elevator!

America's Most Economical Elevator to Install, Operate and Maintain for
APARTMENTS
FACTORIES
HOSPITALS
PLANTS
✓ STORES
WAREHOUSES

This busy 32-passenger Globe OiLIFT Elevator serves four floors in a famous Boston department store. Ascent is powered by an oil-operated cylinder. Descent is by gravity controlled through the hydraulic mechanism. Automatic leveling and anti-creep devices speed traffic and eliminate the need for the warning "Step up (or down), please!"

Globe OiLIFT Elevators cost less to install and operate. Maintenance cost is so low as compared with that of cable types the owner will more than save the original cost over a period of 30 years. Globe OiLIFT Elevators are assembled to meet your specifications. Send today for the new Globe OiLIFT Elevator Catalog AR-503.



The OiLIFT principle eliminates expensive penthouse construction and load-bearing shaftway walls.

GLOBE
THE BEST LIFT

GLOBE HOIST COMPANY • 1000 E. Mermaid Lane, Philadelphia 18, Pa.
(Factories at Des Moines, Iowa and Philadelphia, Pa.)

REQUIRED READING

(*Continued from page 46*)

the poorly designed work?

One very firm fact emerges; our houses are using less and less permanent partitions. Space uses defined by furniture or storage walls are general. This also is a trend likely to grow as our industries find better, cheaper and easier methods of dividing the floor space temporarily.

It is very encouraging to note that there are a few builders' houses, designed by architects, included. We foresee that in the RECORD's next "Five Year Record" many more of these may gain a recognized place. A new use for custom-built architect-designed houses is now apparent. Merchants and small home builders find their eye-catching and sales-stimulating features first in such houses. The fact that these borrowed features are used often without rhyme or reason is regrettable.

For instance the split-level house shown at least in a dozen houses of these 82 is used *for a reason*. That is, it functions well for the particular site. Today, on flat Long Island this feature is a hot sales point where slopes have to be manufactured by filling and cutting. Picture windows, so loved by developers, had their origin in custom-built houses. In this collection few appear. Entire glass walls are used instead. New selling ideas for merchant builders will be found in this book. We pray that their adoption will be tempered by the local site and other conditions. Better yet would be for such builders to employ architects to design their houses.

The territorial distribution of the 82 houses is wide, from Maine to Washington state, from Illinois to Texas — even including Hawaii. Your reviewer tried hard to find any distinctive regional features either in roof lines, materials, plan types or glass usage — but in vain. Flat or slightly sloping roofs are in evidence throughout the country. Wood inside and outside has no regional preference. Glass is used as profusely in Maine as in Texas or California.

To name the noteworthy architects whose works are included would take half a page. Its list includes almost all of those most widely known for good houses. The book is a good buy. It tells the story well and contains a wealth of well-selected material. It is unfortunate that some of the illustrations are too dark to make out the details in the shadows. While an index would have been an addi-

(*Continued on page 300*)

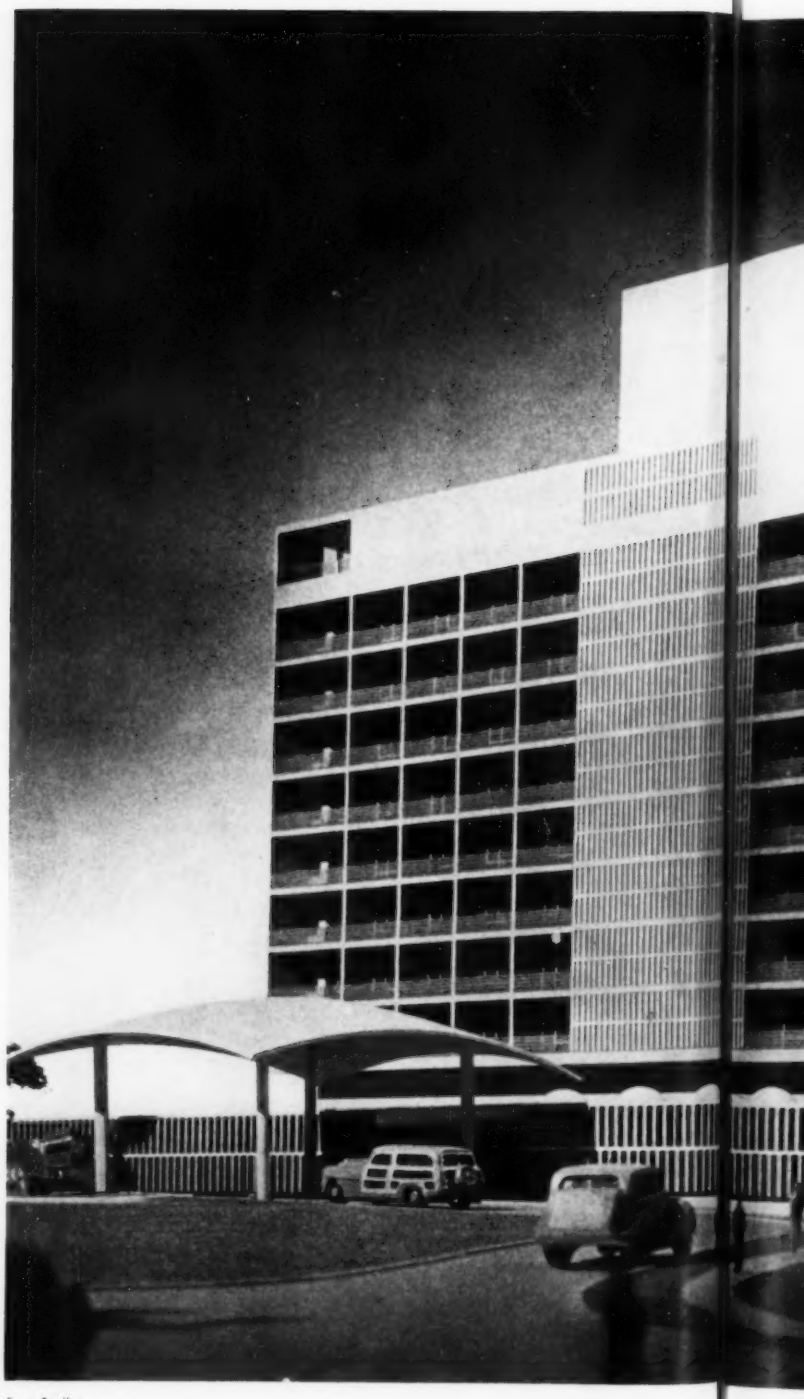
TOURIST HOTEL FOR ISTANBUL, TURKEY

MOSQUES AND MINARETS, earlier native architecture of Istanbul, will one day soon be scenic contrast to the latest American-aided project in the East, the Istanbul Hilton Hotel, done by Skidmore, Owings & Merrill and their Turkish associate, Sedad H. Eldem.

In architectural terms, the mosques and the minarets have little more significance than ancient and revered landmarks in this or any other country. For something like twenty-five years the Turks have wanted, in fact made a point of rather demanding, international styles of architecture. Virtually all of the large buildings of recent years have been modern in concept and styling, something that could be said of perhaps no other country.

The new hotel will nevertheless represent a new high, literally as well as figuratively. It will be the highest building to date, and the most important, for it will become the focus of business and diplomatic (and tourist) functions and activities. Designwise, it will no doubt stand out for a quality of assertiveness, partly because this is one of the

ISTANBUL HILTON HOTEL



Ezra Stoller

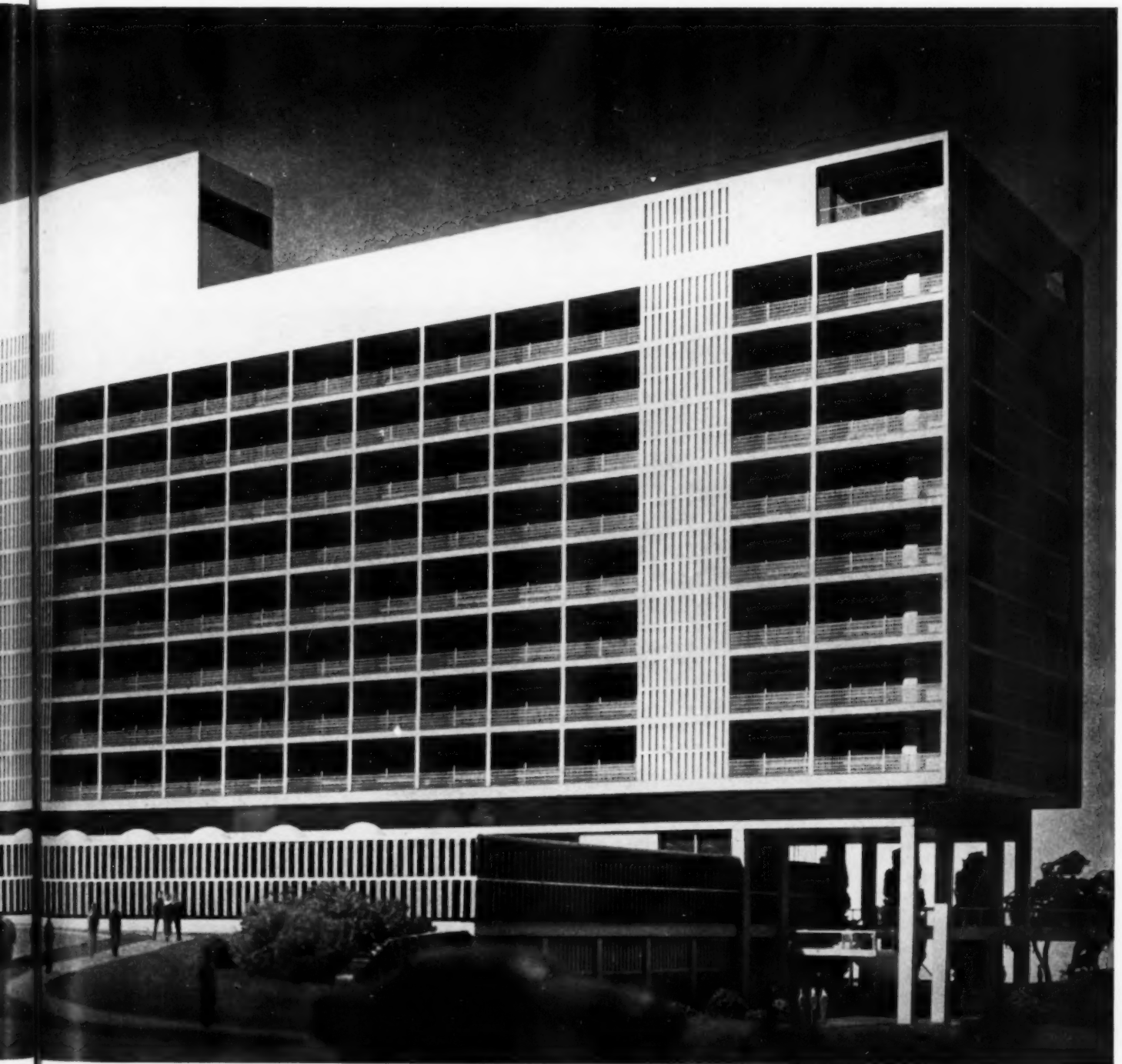
natural products of the American portion of the design association, partly because that quality is inherent in any of the new hotels beginning to dot the travel maps and posters.

In this instance, however, the scheme of the hotel departs from the strictly tourist concept, for it is to fill a larger need in Istanbul. This is essentially a project of the Turkish government, as are most of the later buildings there, and one of its purposes was to provide facilities for official functions. It is really a combination of the great tourist hotel and the hotel version of a palace.

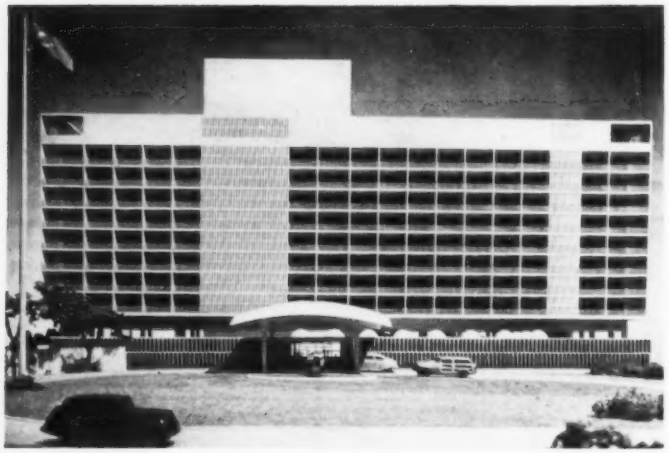
This thinking is readily visible in the model photographs. The main shaft of the building contains the sleeping rooms, and follows the logical form of many strictly tourist hotels. The lower portion, however, is greatly extended, including all of the lounges, bars, restaurants and shops, flowing outward to pools and gardens and sports facilities of a vacation resort, but also having the banquet and conference rooms of a hotel catering to business and government activities.

These purposes found their way into the architectural expression, though the interpretation is much more natural than the listing of the purposes might imply. The slick efficiency of the hotel-room shaft is manifest, and the extension of the two public floors offers no denial of this note. There is perhaps a gayer or more gracious note in the gradual movement outward of the lower floors, and there are motifs of definitely Turkish origin, these being suitable for tourist or diplomat alike. The picturesque quality of Turkish artistry will find its place in the interiors, even though the tourists have to take cabs to see the minarets.

From its beginning the hotel project seemed to accumulate a great deal of official attention, and was finally blessed with high-level approbation. Istanbul (Turkish government) had long sought to interest

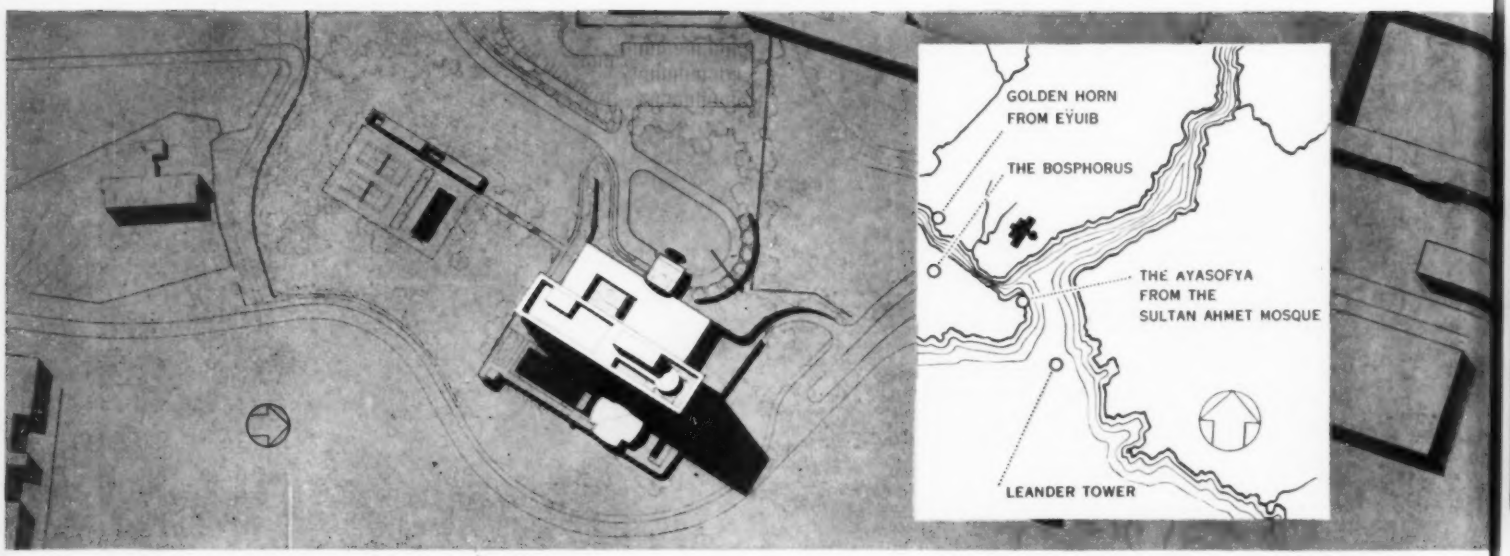


Owner: Turkish Republic Pension Fund
Advisor-Operator: Hilton Hotels International
Associated Architects: Skidmore, Owings & Merrill
Sedad H. Eldem
Partners in Charge: William S. Brown, Coordination
Gordon Bunshaft, Design



Ezra Stoller

ISTANBUL HILTON HOTEL



For all of the European influences that have been felt in Turkey in its recent history, the country is still visited for historic scenic attractions. The hotel will have for its site a high hill overlooking the famous Bosporus (left, below). Within range of this hill (telescopic range, perhaps) are such views as the Leander Tower (left, above), the Golden Horn (opposite page) and the mosque d'Ayasofya (page 103)

American capital in such a venture. ECA (now MSA) took an interest in this and other similar moves toward extension of commercial and tourist trade. An official tour was organized, with Conrad Hilton and John Houser of Hilton Hotels International, and Louis Skidmore and William Brown of the architectural firm, who visited London, Rome, Istanbul, Athens. Istanbul was the first city selected; there may be others. The enthusiastic cooperation of the Turkish government was a factor; funds and collaboration were made available. Also the choicest possible site; indeed the site is part of an ambitious park development for Istanbul, and but for official enthusiasm could not have been made available for any hotel, with or without international backing.

A contract with the Turkish government was signed by the Turkish minister of Foreign Affairs and Hilton Hotels International, and was subsequently assigned to the Turkish Republic Pension Fund for administration and for carrying out the provisions. The hotel will be operated under 20-year lease by Hilton Hotels International.

As a design assignment, the hotel had an unusual tie for Skidmore, Owings & Merrill, for the firm had previously been retained by the Turkish government to survey town planning, housing and building. Gordon Bunshaft, partner and design chief, had led a field group in a two-month trip through Turkey, culminating in a major set of recommendations to the Ministry of Public Works. The findings of the survey do not have too much bearing on this project, but the fact of the study did do much to smooth the planning procedures. Turkey does have much of modern technology, but like all Eastern cities is lacking in basic things like steel and cranes and tools and techniques.

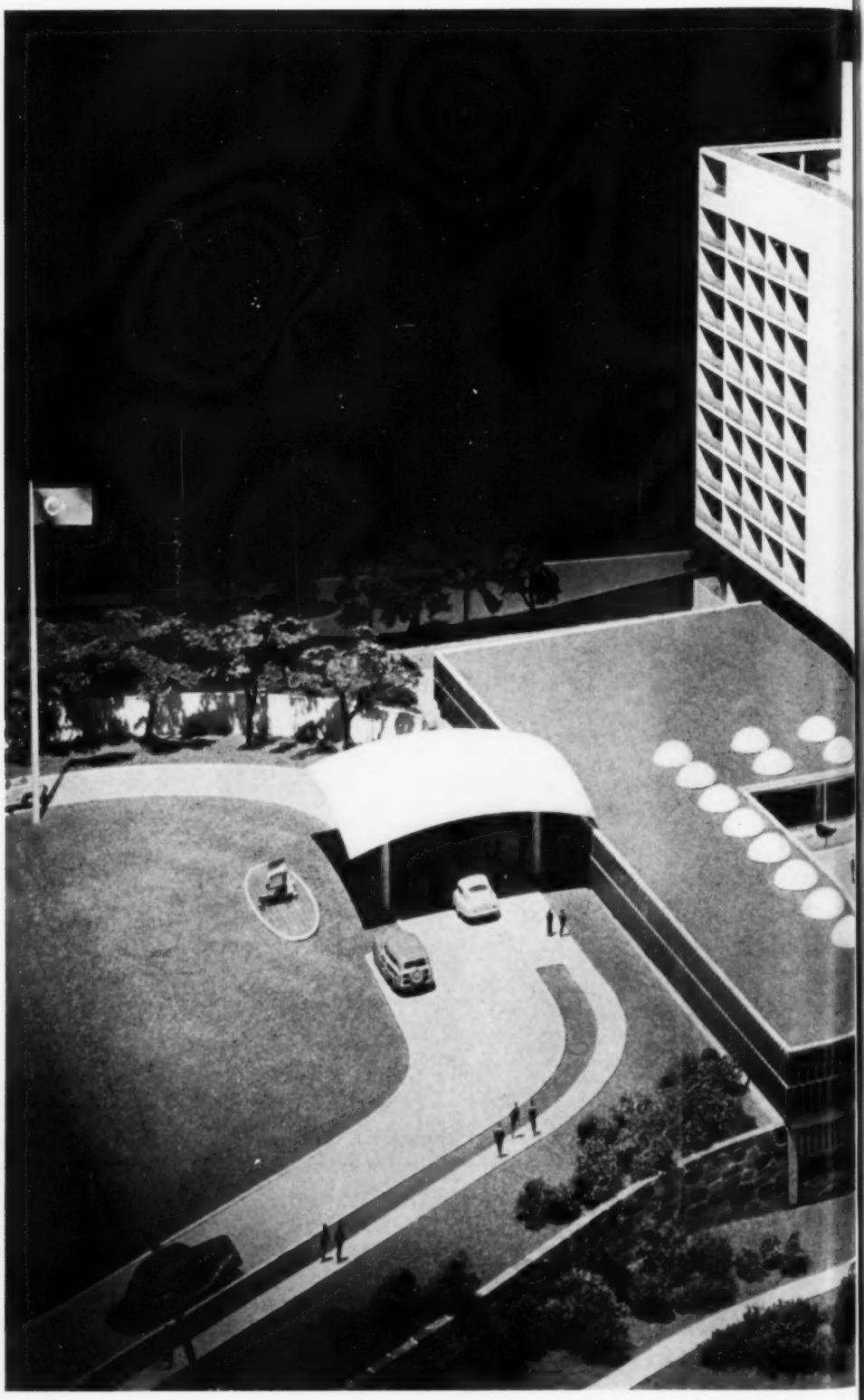
Perhaps this hotel project will advance in some degree the firm's own recommendations about developing local industries. It is true that most of the materials will have to be brought in, but the project will have an unusual amount of participation by Turkish interests. Sedad Eldem, an award-winning contemporary architect, was an active participant in the early planning, spending many months in New York. Basic design was done in New York, also engineering. But working drawings were done in Istanbul by Eldem's office, with two S. O. & M. men working there for interpretations.

In design terms this is a normal project, affected by local shortages principally in steel-saving devices. The structural design, in reinforced concrete, was developed to use steel rods with exceptional economy. The structure will stand on continuous footing beams, with reinforcing rods carefully placed to match tension stresses, but designed without too much reliance on bonds. Beams throughout the building get over-sized, not only because of the steel saving, but also for an earthquake condition of second-degree magnitude.

The overall design takes full advantage of a site difficult to match in any of the tourist centers of the world. Bellevue Park, on the top portion of which the hotel will stand, is a high promontory overlooking the strategic Bosporus, with views and breezes to give the steamship and air lines much copy for their tourist folders.

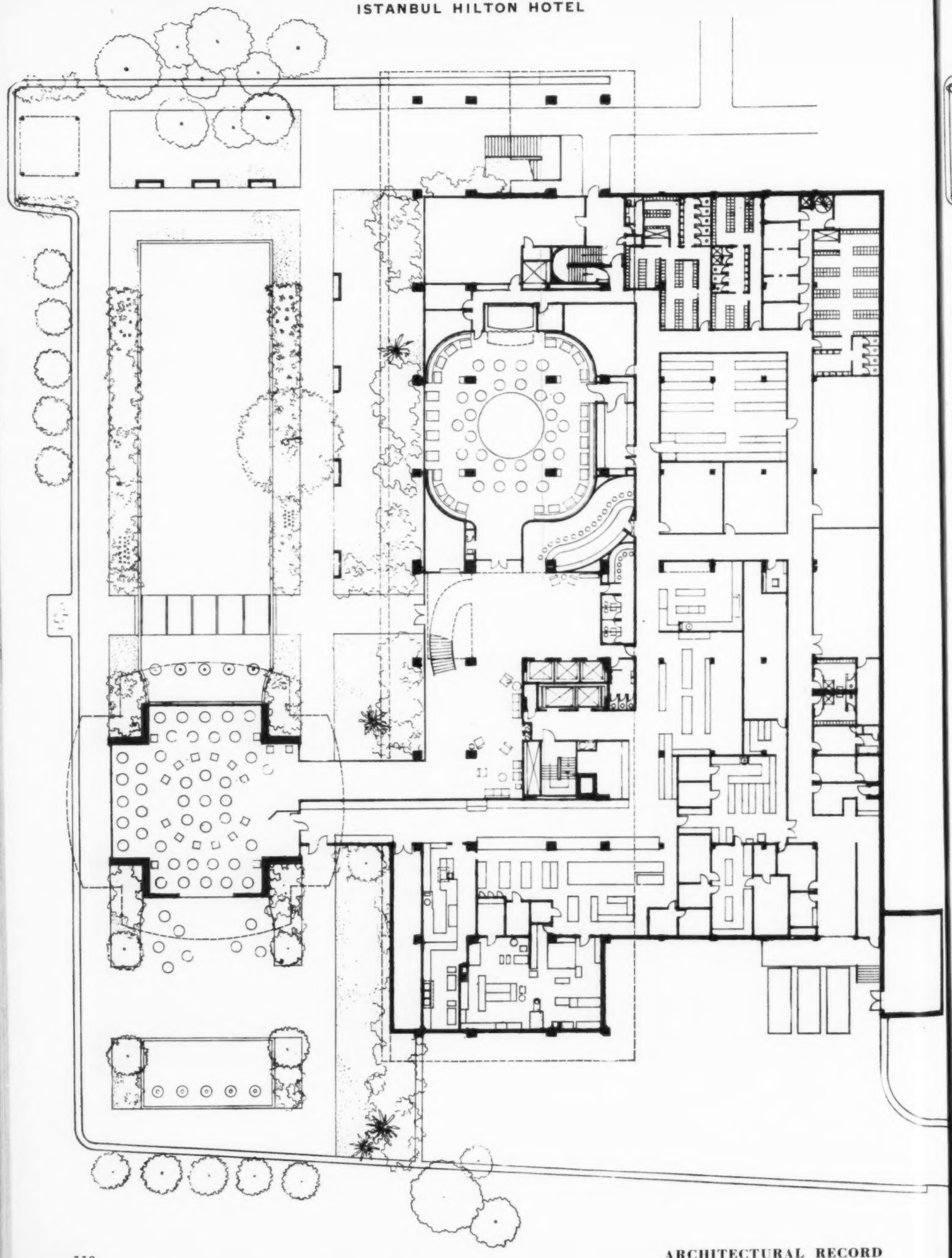
Integration of indoors and outdoors, stressed so heavily in modern tourist hotels, is extensively but very naturally done. The upper (entrance) floor has an open patio in the center, surrounded by a group of shops on one side, main lobby on the other. Lobby opens on the other side to a very long cocktail terrace overlooking the garden, a modern version of the old front porch. Below, on the garden side the near visual focus is a reflecting pool, to be used also for skating. The hillside falls away rapidly toward a huge free-form swimming pool, with tennis courts and cabanas; farther still, to one side, is an amphitheater. And in the distance, those terrific views.

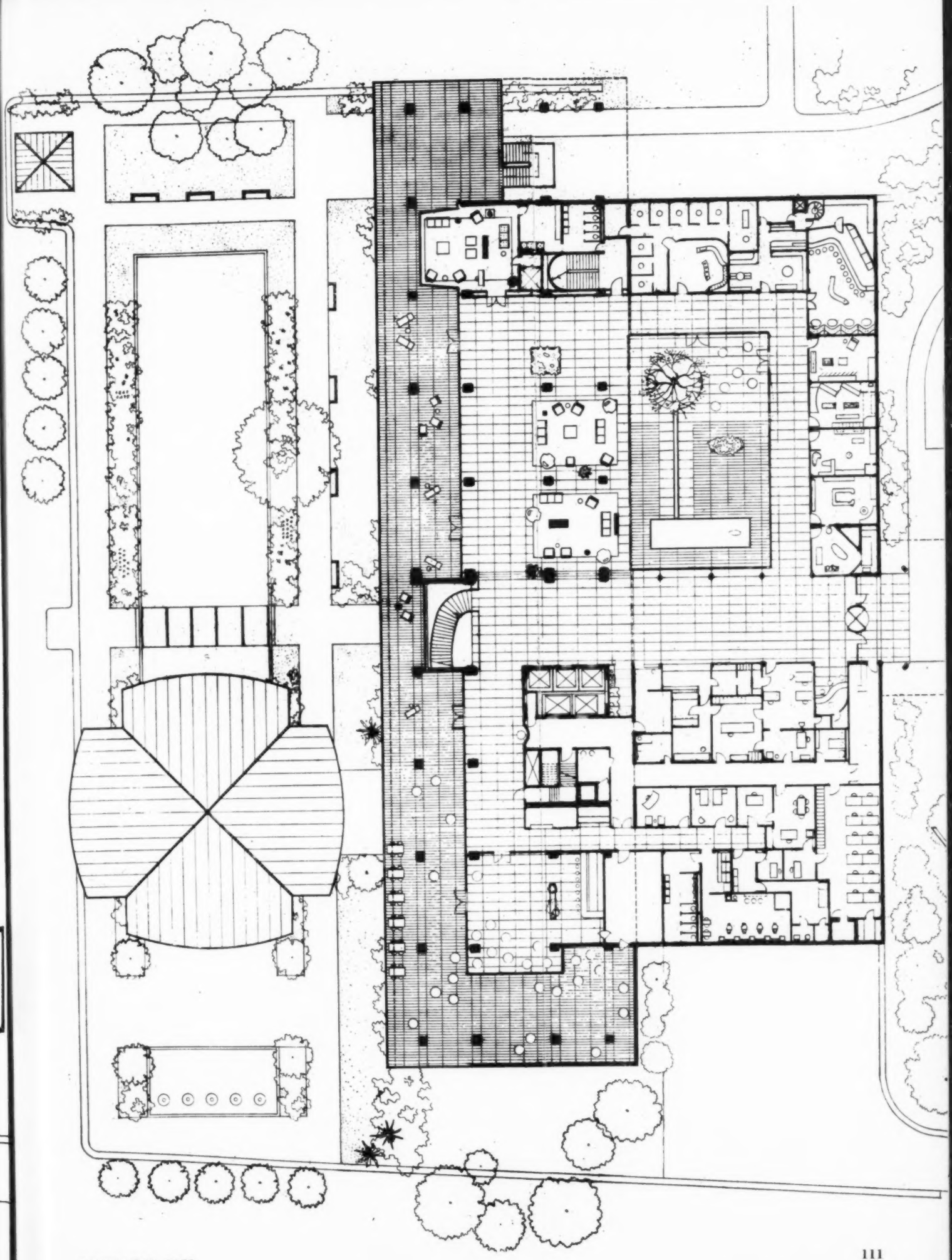
ISTANBUL HILTON HOTEL



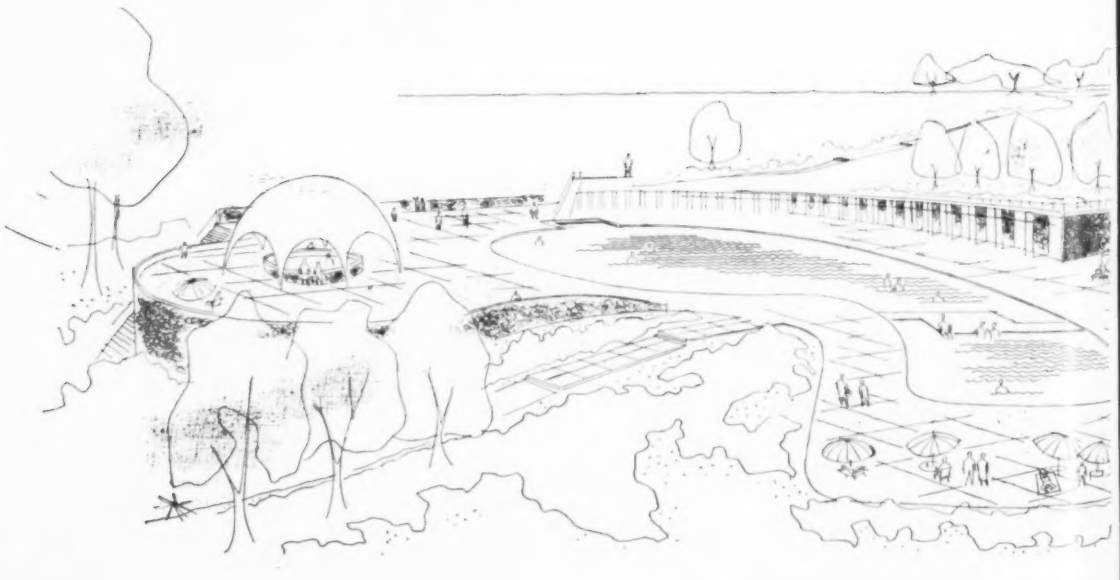
Ezra Stoller

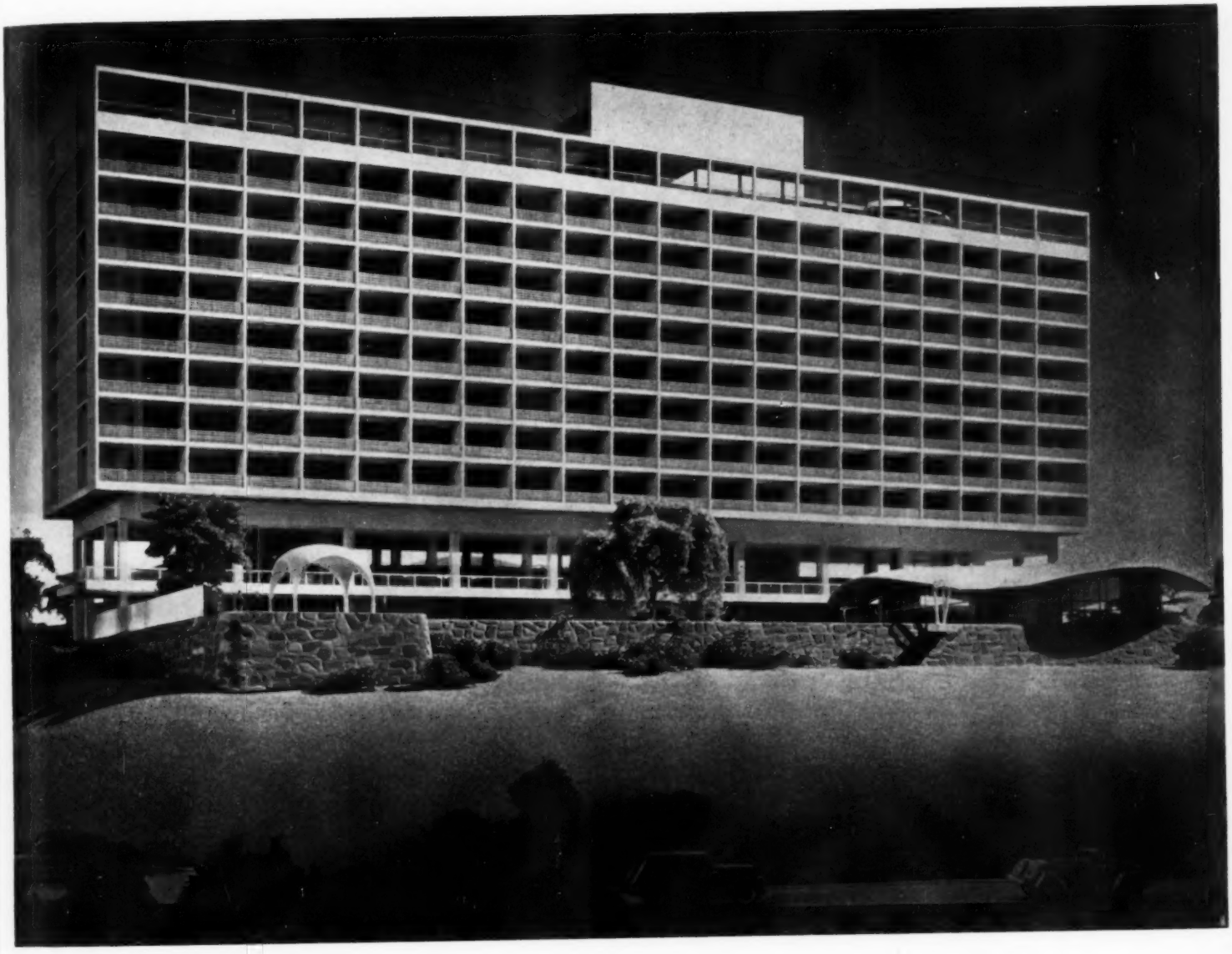
The multiple purposes of the hotel show more plainly from the front entrance side; the great extension of the lower floor contains shops, offices, lounges, encircling an enclosed patio, with vast terrace hanging outward toward reflecting pool and gardens





Viewed from this side the model gives a better idea of the social and recreational aspects of the hotel. Resort hotels have gone through many changes, but the far-away tourist hotel utilizes to the full the "watering-place" development outdoors





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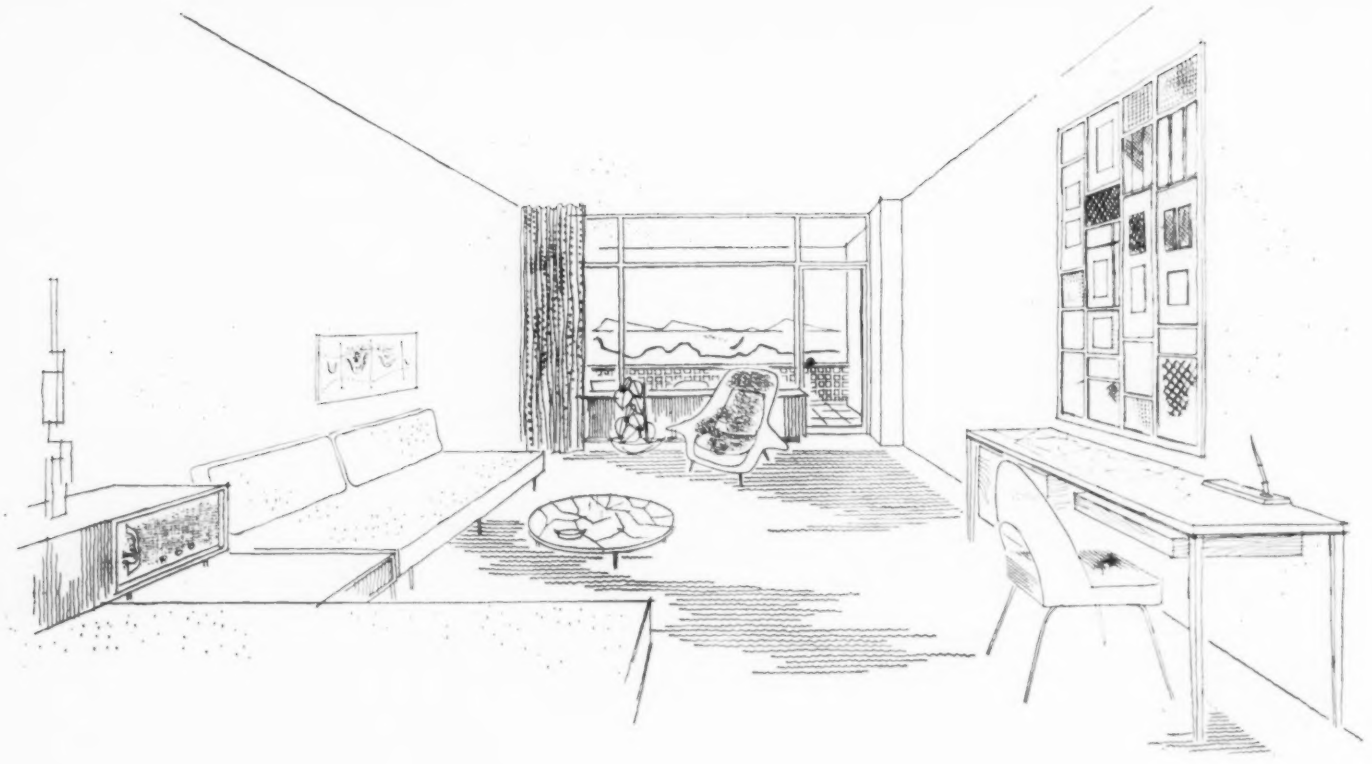
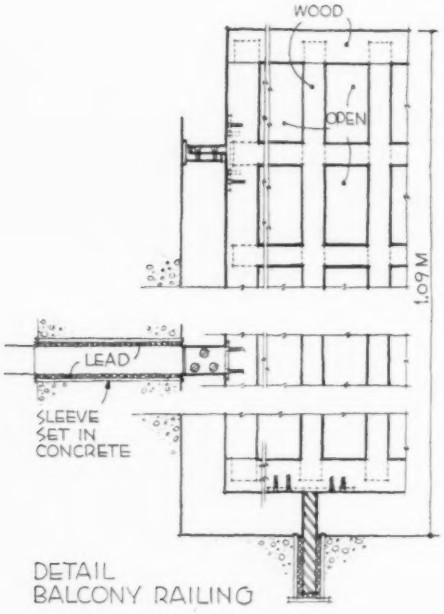
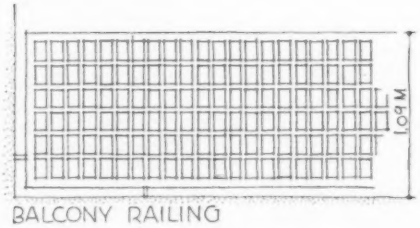




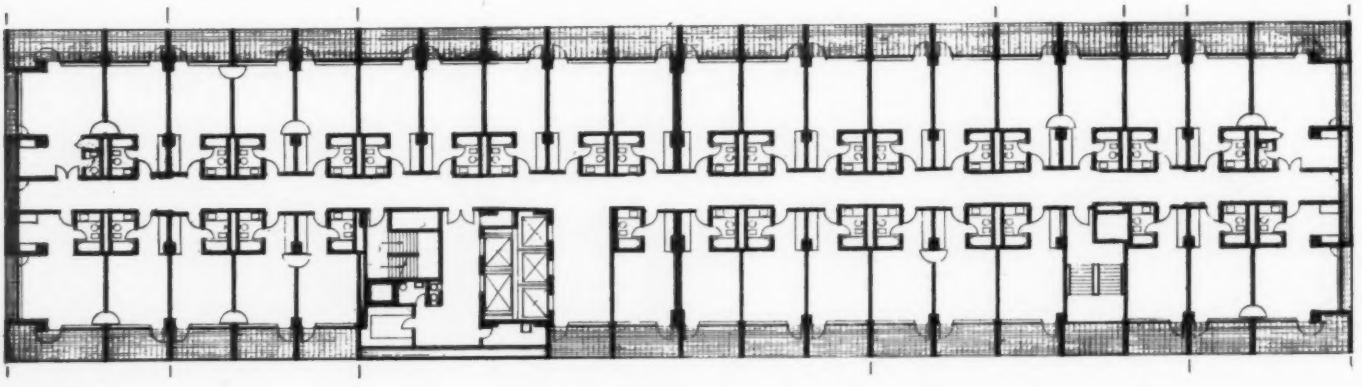
DETAIL
BALCONY RAILING

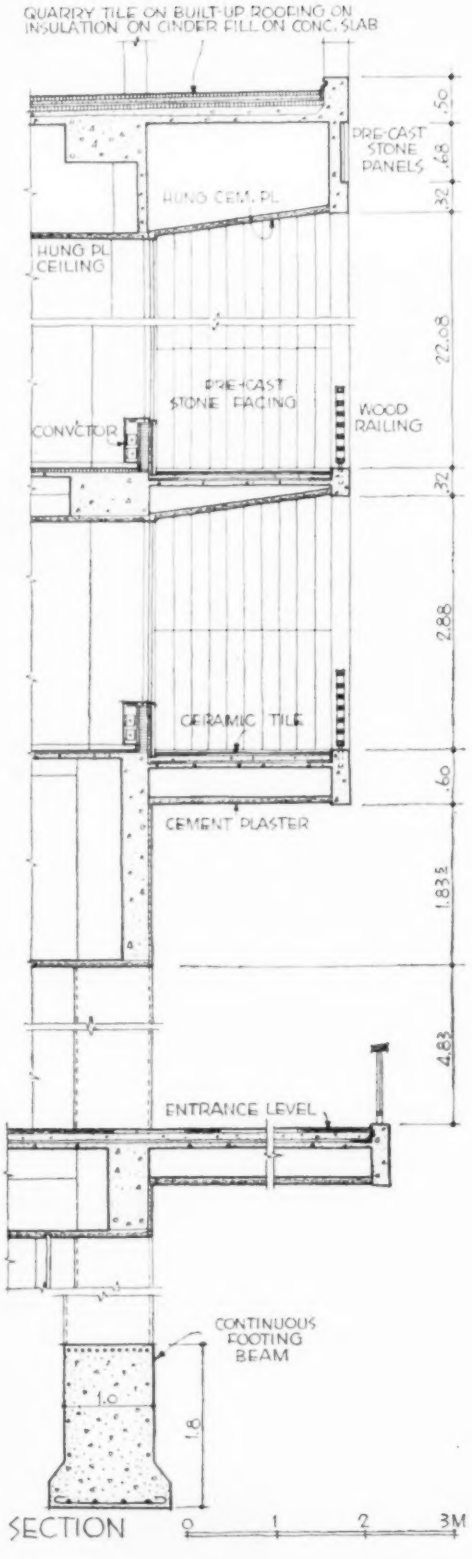
Each sleeping-room floor is identical, with all rooms alike except at the corners. A penthouse floor will have a few larger suites

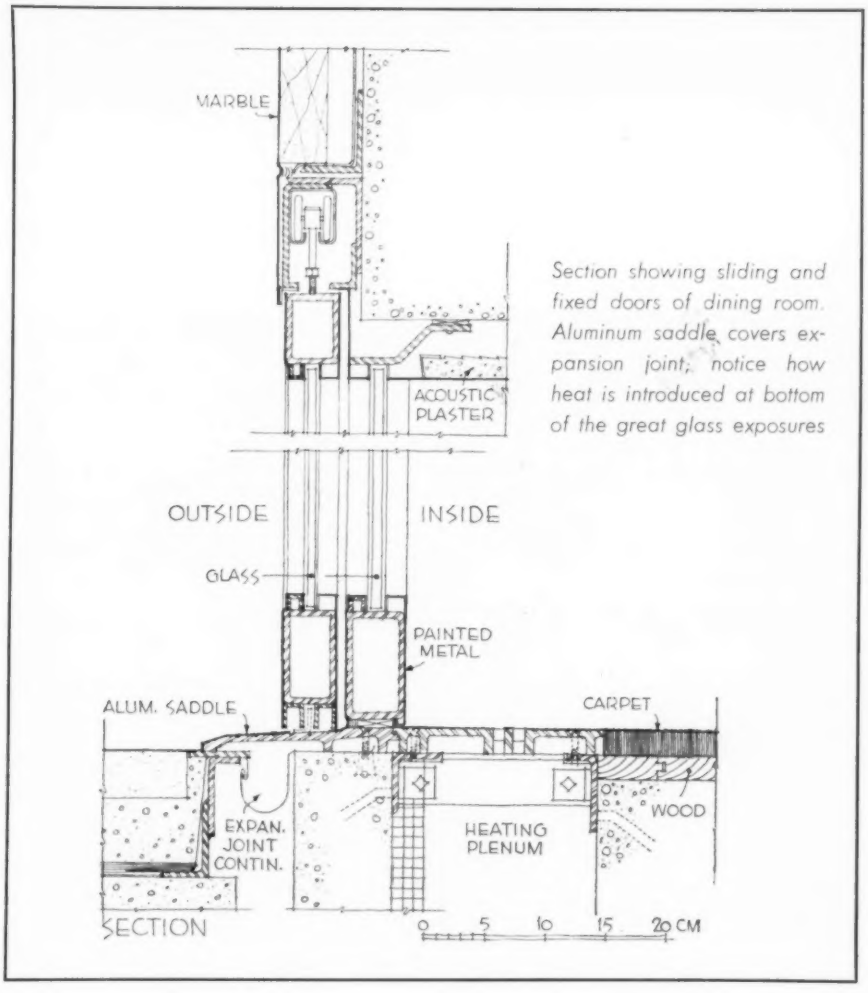


BALCONY RAILING

TYPICAL FLOOR PLAN

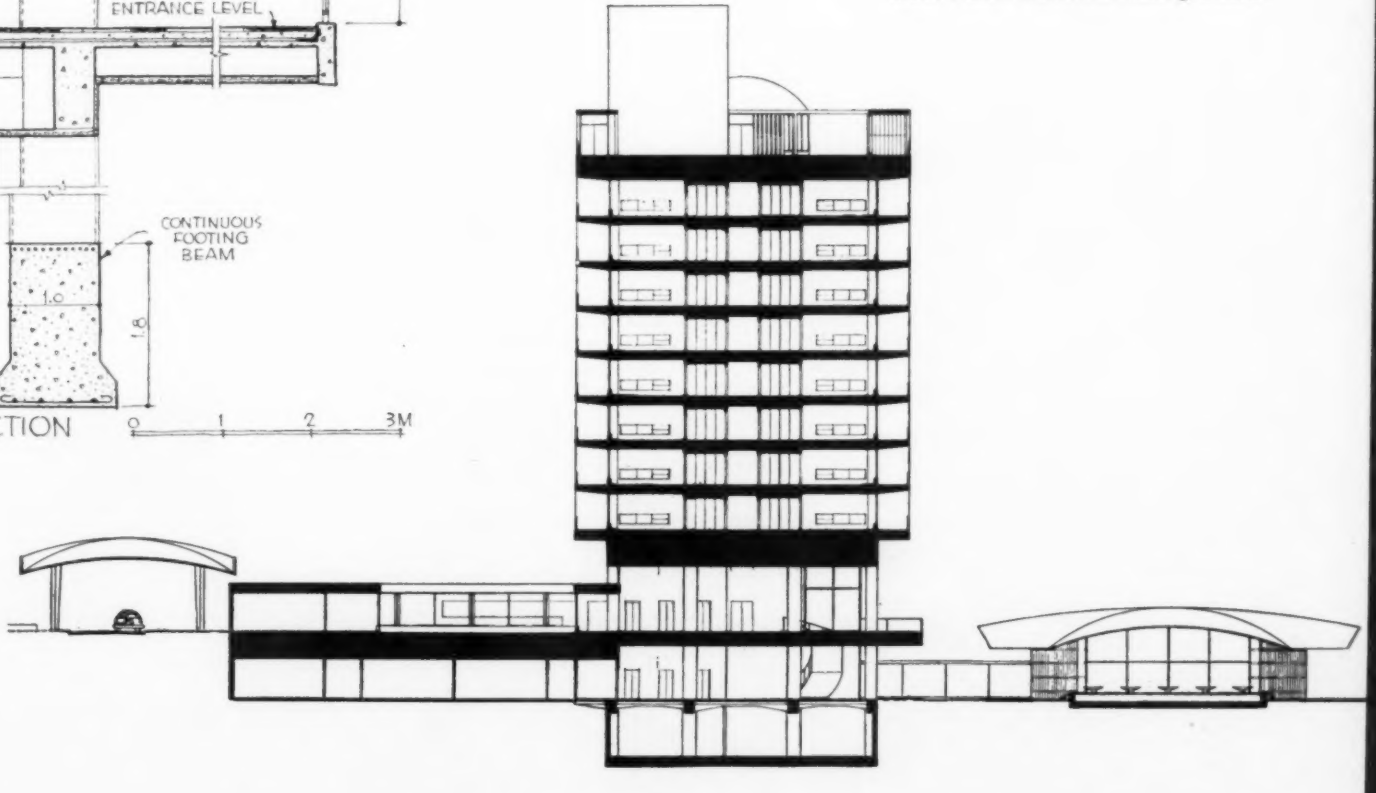






Section showing sliding and fixed doors of dining room. Aluminum saddle covers expansion joint; notice how heat is introduced at bottom of the great glass exposures

Typical wall section shows great size of concrete beams, to save reinforcing steel. Notice continuous footing beams



ISTANBUL HILTON HOTEL

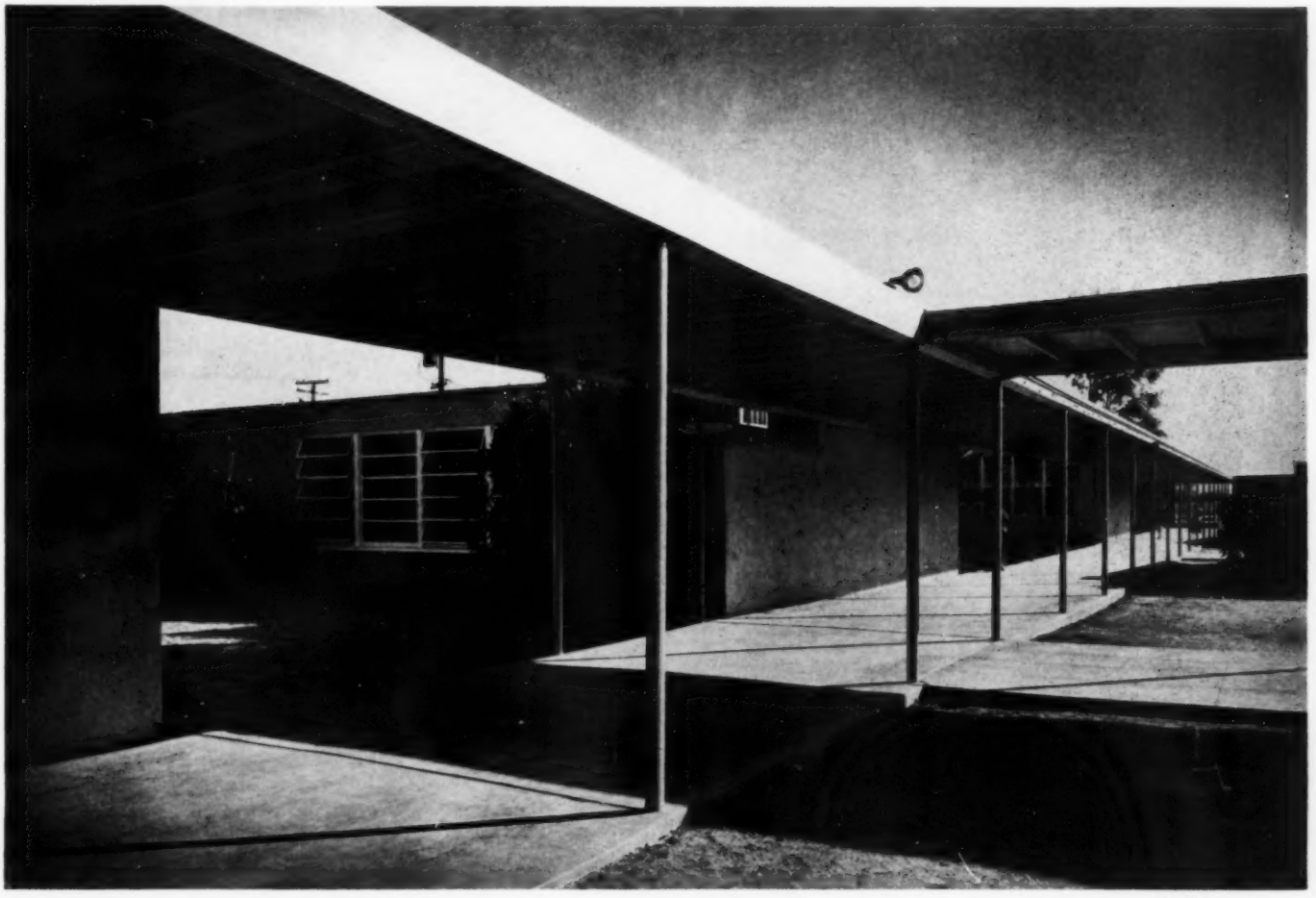
Ezra Stoller

DESIGNED FOR MULTI-STAGE CONSTRUCTION

School mirrors its community in character and planning

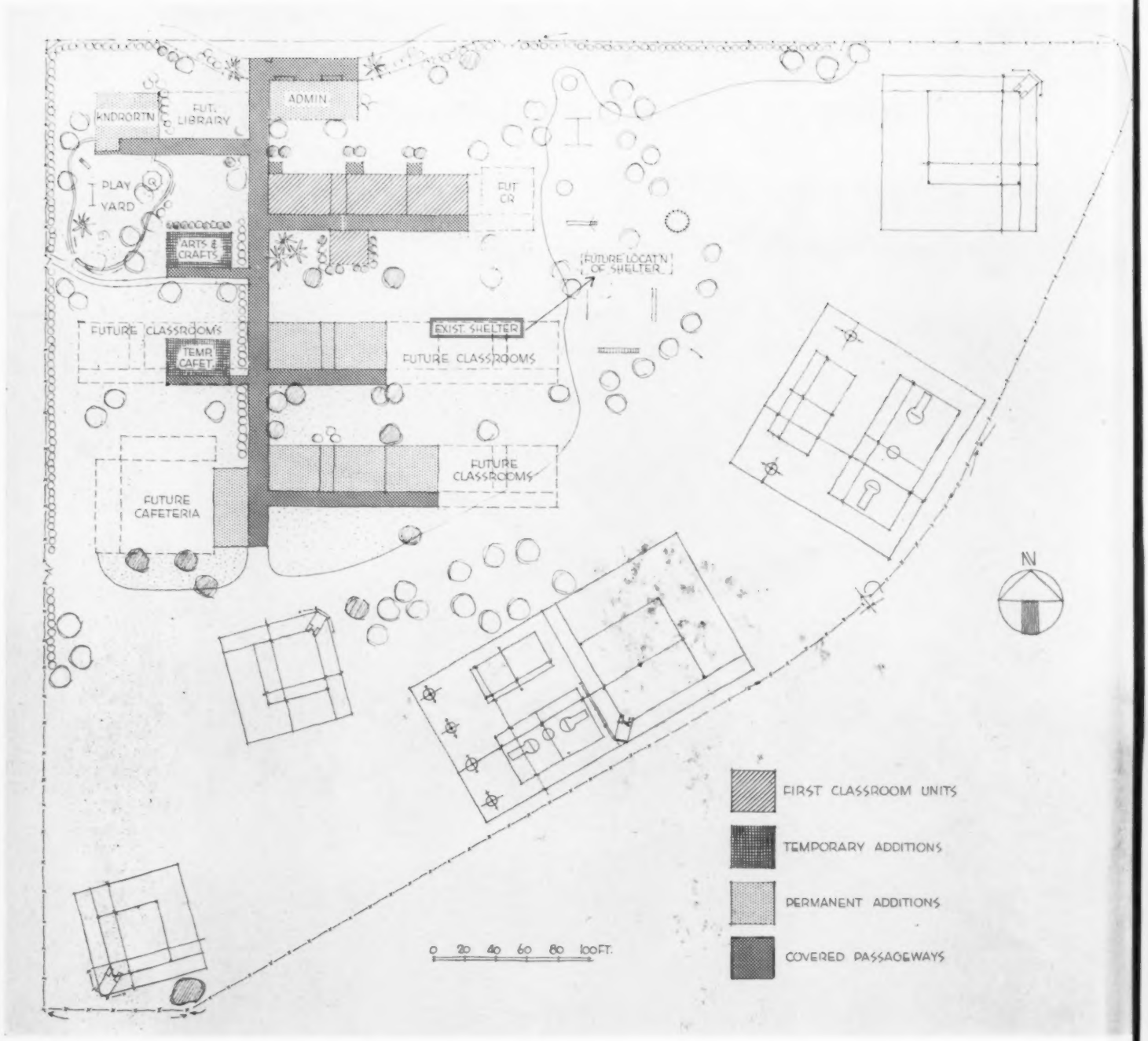
Cahuilla Elementary School
Palm Springs, California, Unified School District

Clark and Frey, Architects



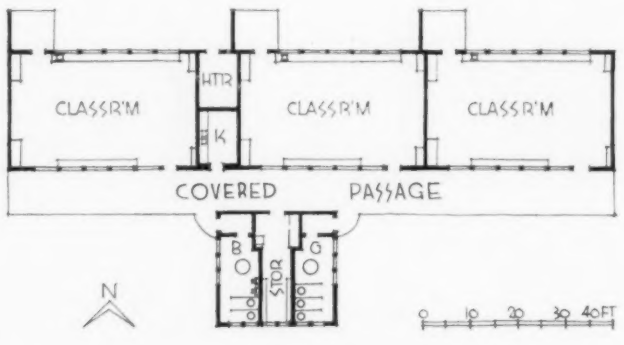
Julius Shulman

IN DESIGNING this sprawling, finger-plan school the architects were able to take advantage of a comparatively mild desert climate and a flat, uncomplicated site. The result was a flexible, open plant which could be built in stages with a minimum of complications. The school began operations in a single original unit of three classrooms with adjunct toilet facilities and has expanded to the interrelated group of buildings shown here. A glance at the plot plan on the following page will show still further expansion planned for the future. If necessary, the scheme could be enlarged even further, to keep pace with community growth. Throughout its successive stages, the school has maintained a character and scale geared to the requirements of the children whom it serves.



CONSTRUCTION COSTS	Totals	Sq Ft
First unit (5000 sq ft)	$28,000	$5.60
Temp. add. (2200 sq ft)	$12,100	$5.50
Perm. add. (12,000 sq ft)	$102,000	$8.50
Total to date (19,200 sq ft)	$142,000	Approx. average $7.80

Above: plot plan shows initial, present and projected future stages of school. Below: plan of original classroom building, also shown in photograph opposite page. Separate toilet block is connected by covered passageway



At present, the group includes eight classroom units distributed in three pavilions, a kindergarten, an administration building, two toilet blocks, an outdoor shelter, and temporary cafeteria and arts and crafts buildings. Present plans call for the addition of nine classrooms, a library and a larger permanent cafeteria. The buildings are connected by open, covered passageways which also provide shade and shelter and help shield classrooms from direct rays of the hot desert sun. Generous recreational facilities include outdoor basketball courts, baseball diamonds and space for other activities.

The sprawling plan of Cahuilla School mirrors the community of Palm Springs itself, which spreads its 7700 population over a relatively large area. Minimum size of residential lots is 100 ft square and most houses are one-story. This factor made it necessary to provide three separate dispersed facilities for elementary education and will help determine the ultimate practical limits of expansibility for each. Cahuilla School serves the southern portion of the community.

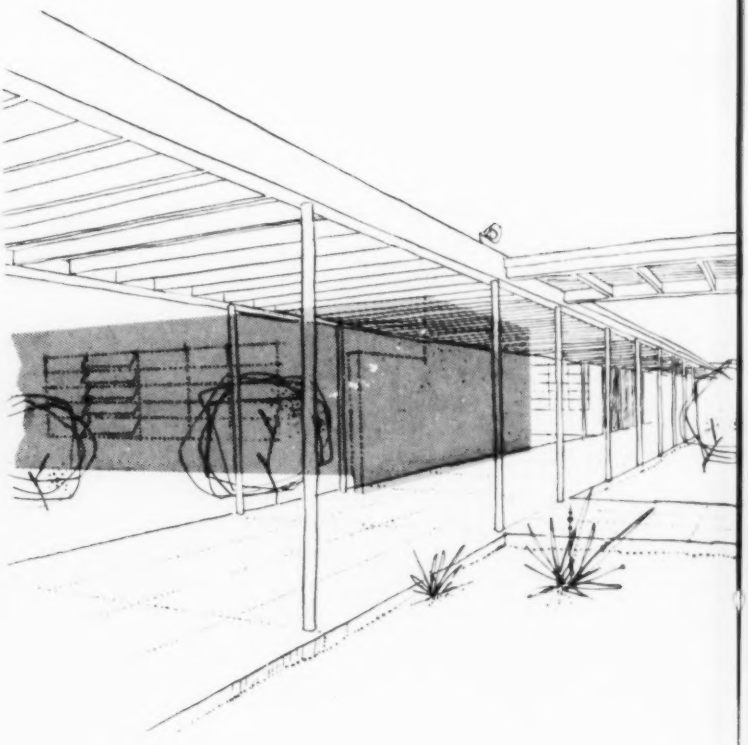
Construction is of concrete foundation, wood frame and integrally colored cement slabs, poured on grade. Exterior walls are of cement plaster and are painted. Interior walls are plaster, finished with colored stucco. Windows are mostly louver-type and have crank-operated steel sash which permits maximum circulation of air in hot weather. During cold days the buildings are heated by individual gas-fired forced-air furnaces through outlets in concealed ceiling ducts. This system has helped in making the expansion of the school plant simpler and easier.

Julius Shulman

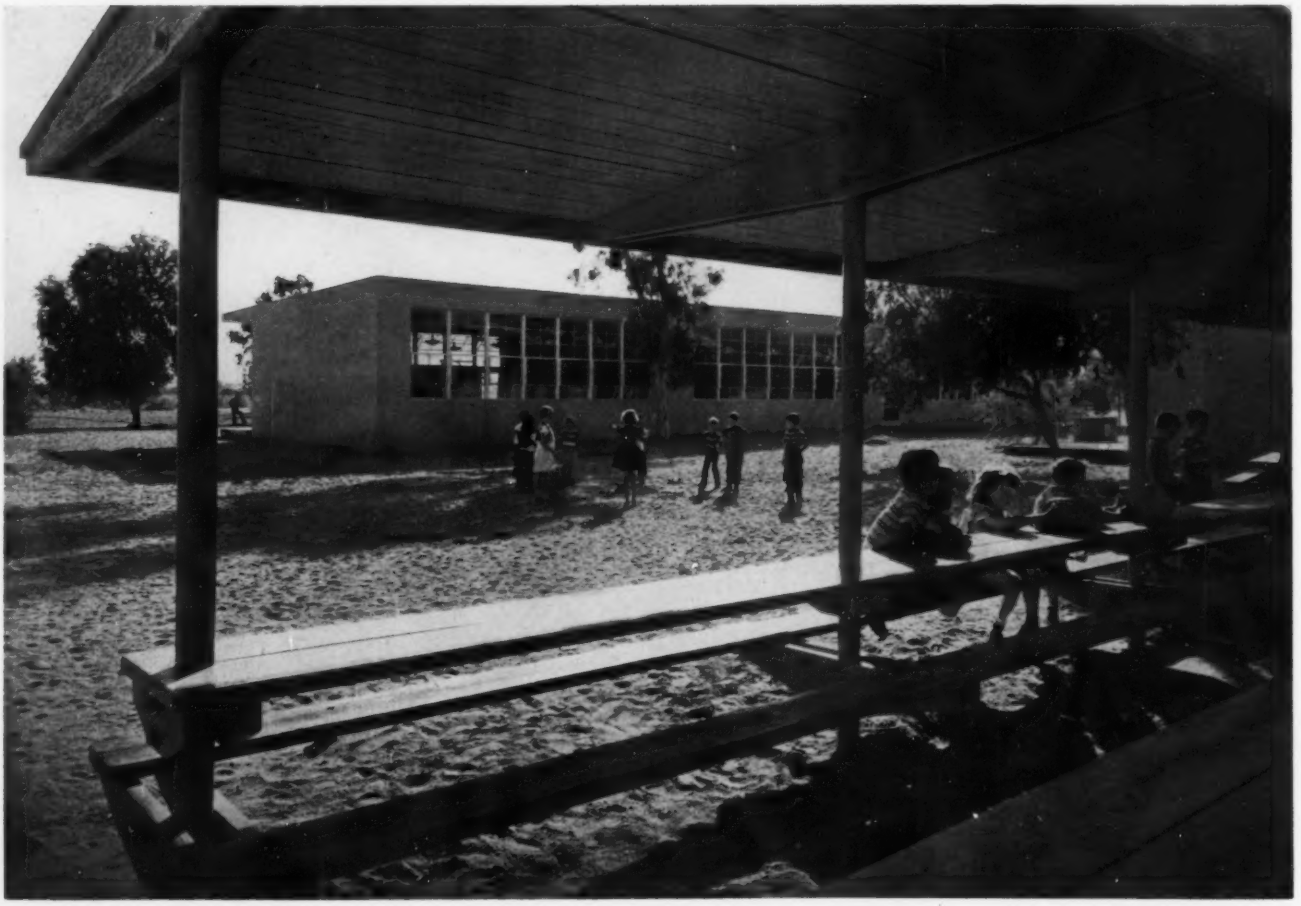
First completed classroom building shown in view from south. Cantilevered roof of passage shields classrooms from excess sun

CAHUILLA ELEMENTARY SCHOOL

PERMANENT ADDITIONS

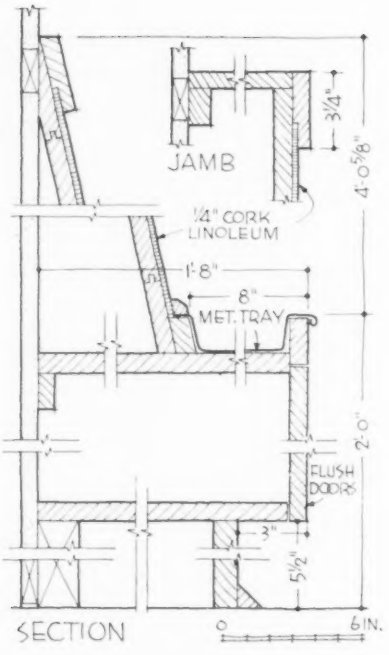


First classroom unit is shown here before and after expansion of school. Above: building as it originally appeared, view from northwest The sketch at right shows the building, shaded area, as it appears today (see also photograph p. 1171. Below: outdoor shelter is used during lunch and rest periods



Julius Shulman

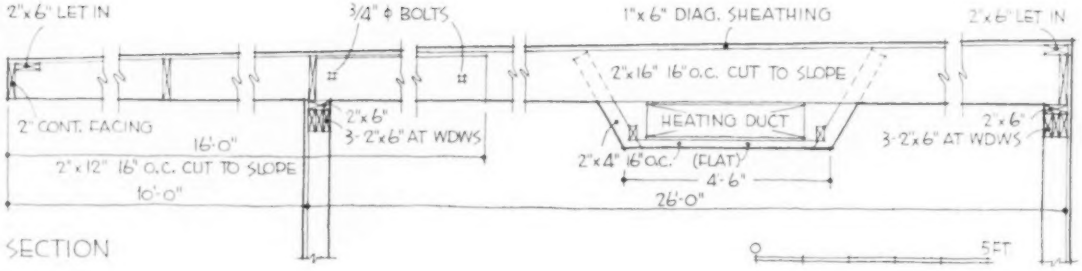
Above: view of kindergarten building, looking west. Low free-form fence at left encloses separate playground. Library building will occupy space at right of photo. Right, entrance to administration building. Note built-in railings to support planting



CLASSROOM DETAILS

Below: interior of typical classroom. High windows are oriented to south and shielded by exterior passageways. They help control excess sun in summer, but permit low rays to enter in winter. The built-in easel board was especially designed (see detail at left) and has storage space for art work. Classrooms also have porches with sinks and counter cabinets for outdoor activities.

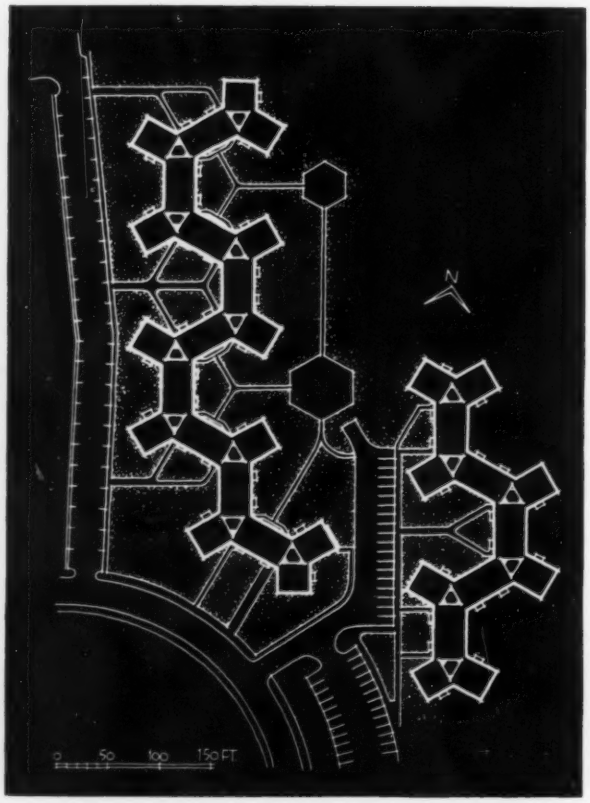
Below: detail shows ceiling construction for accommodation of concealed heating duct (see photographs opposite page and below). Nailing instructions for 1 by 6 in. diagonal sheathing are specified exactly to insure maximum strength. Photo at bottom of page shows large classroom windows in north façade. Door at left leads to individual porch



Julius Shulman

HOUSING PROJECT AVOIDS FREIGHT-YARD LOOK

Joseph W. Molitor

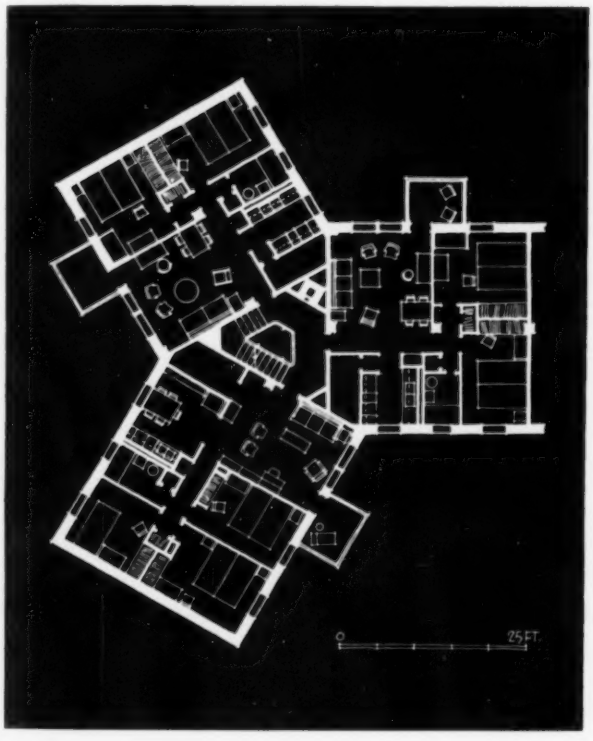


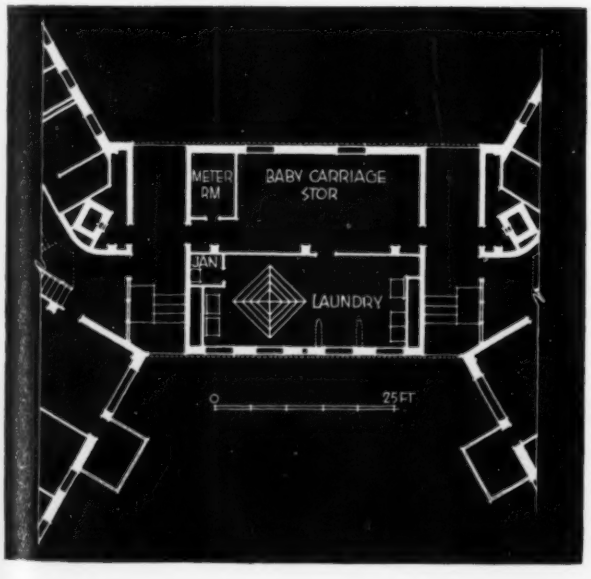
WANTING especially in this instance to avoid the usual slummy associations of a public housing project, the architect worked to develop something better than the customary freight-yard disposition of buildings. The scheme of radiating elements on a 120-degree arc lends interest and variety, also conserves on the number of stairs required for exits. The device also prevents apartments from looking directly at others, gives a wider angle of view, and creates courts of different shapes and sizes.

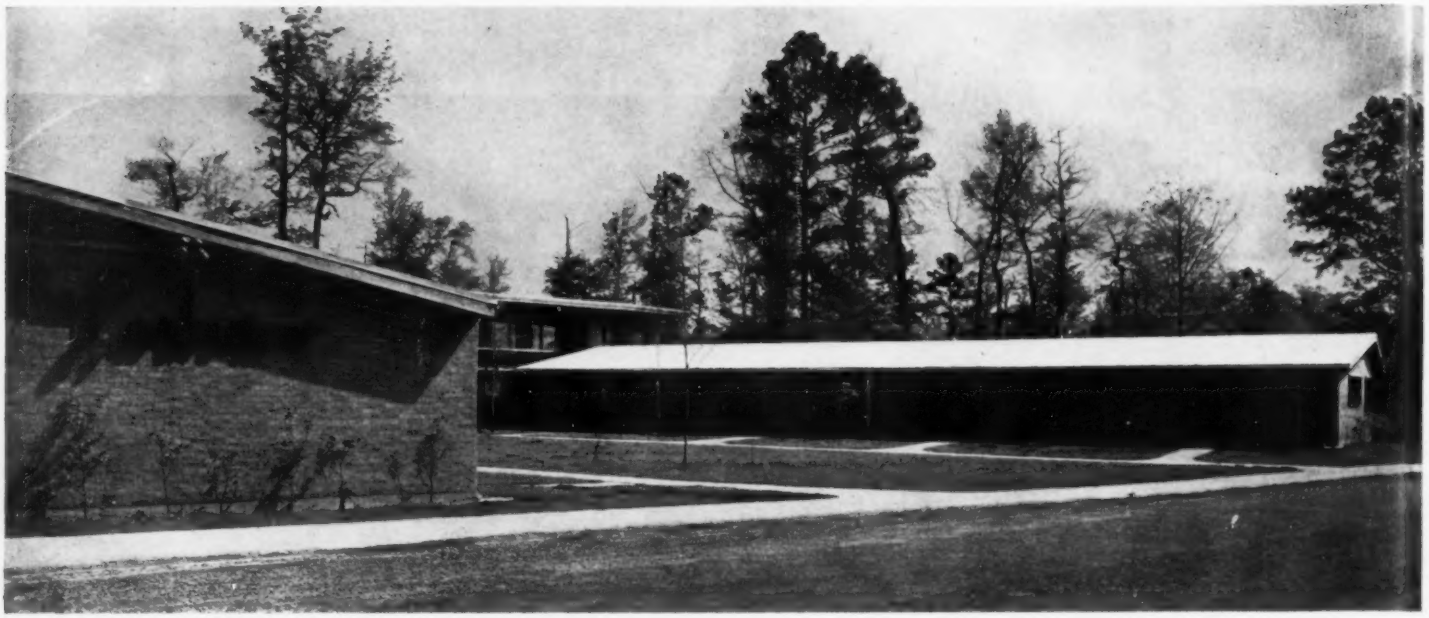
Basements had to be eliminated because of water conditions; hence, at alternating entrances, utility rooms and laundries are placed on the ground floor. Passages through the building give access to play spaces in the center of the project without the necessity of crossing any streets. Each apartment has direct access to laundry and incinerator in stair hall; each also has its own storage room within the apartment.

Buildings are fire-resistant, with masonry walls and center columns and concrete floors; heating from a central plant.

State Aided Veterans' Housing, Chelsea, Mass.
Hugh Stubbins, Jr., Architect
Thos. Worcester, Inc., Engineers
Chambers & Morice,
Landscape Architects and Site Planners





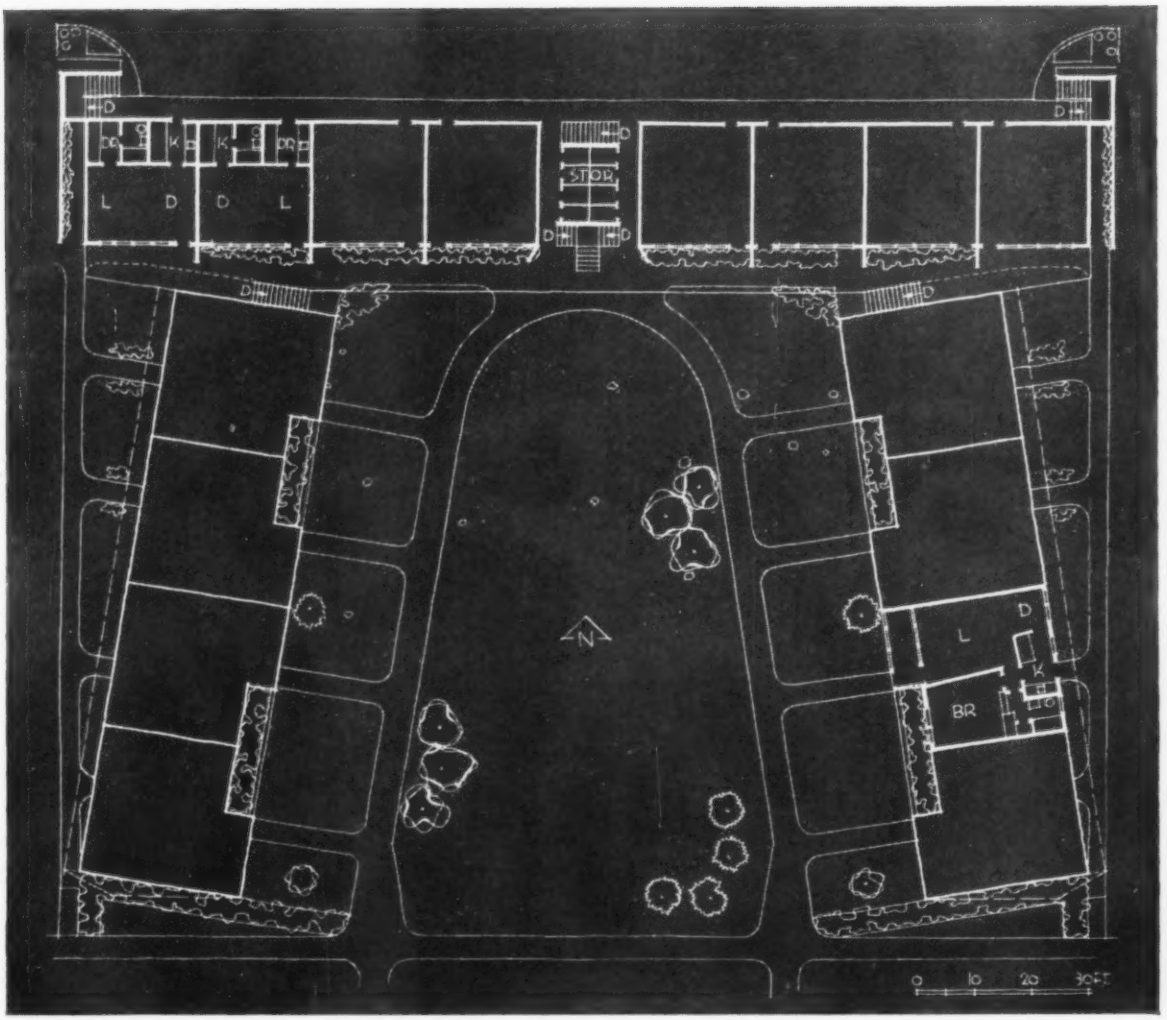


MODERN APARTMENT INTRODUCED IN MILL TOWN

The Parkview Apartments, Springhill, La.

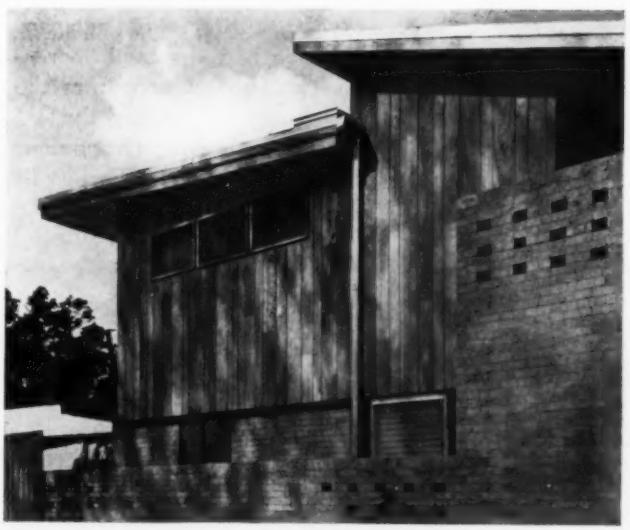
Lester C. Haas, Architect

Joseph W. Molitor



Hinged sliding doors between living room and porch afford "outdoor" living during most of the year. Efficiency units have ventilating wood louvers below and glass transom sash above fixed glass on south wall. Clerestories provide light and ventilation in kitchens and baths. Kitchen work counters in all apartments have sliding table tops that protrude through walls to form end tables for telephones, etc., and extend their full length to serve for dining or study

THE OPEN "U" SHAPE of this apartment provides many attractive features not usually found in the conventional apartment building. Each of the eight one-bedroom units on the ground level has its own screened porch, which serves as a private entrance to the living quarters inside. The eight efficiency apartments at the back of the "U" are elevated, assuring privacy and permitting better ventilation and view than would be possible on ground level at that particular end of the building. This also allows for on-site, sheltered parking, service facilities and a central heating plant beneath the units. Heating of each unit is by ceiling radiant panels. Bearing walls and unit separations on ground floor are brick — exposed on the inside to minimize maintenance and decoration costs. Roof is lightweight insulating concrete — covered by reflective aluminum roofing.



SEASIDE HOTEL IS REMODELED

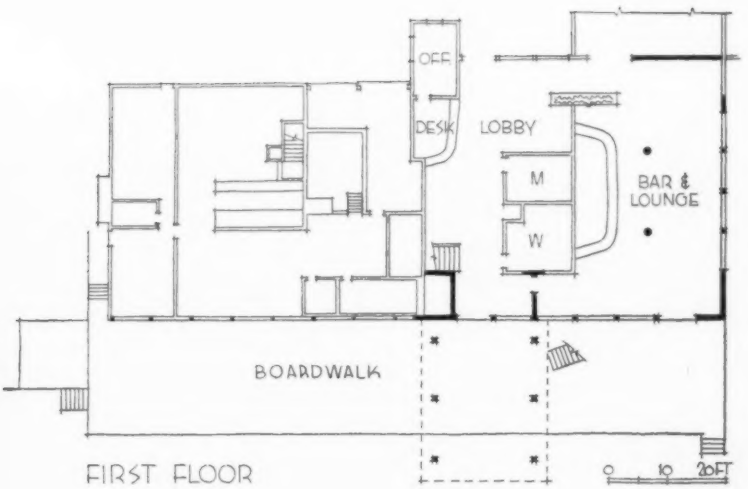
Dune Deck Hotel, Westhampton, Long Island ***William Lescaze, Architect***

EXTENSIVE REMODELING, which included an addition to the existing structure, has turned a formerly drab looking hotel into an attractive summer resort. Located on a broad sandspit separating the Atlantic Ocean from Moriches Bay on Long Island's south shore, the hotel needed an enlarged boardwalk, additional dining space and the transfer of the kitchen to the second floor — adjacent to the dining rooms. The entrance from the parking area was freshly treated — blending the old and the new in such a way as to create a harmonious balance (lower left photo, opposite page). Douglas fir has been used for framing; interior walls are plywood; floors in lobby and cocktail lounge are cork. Horizontal sliding windows in three walls of the dining room provide excellent ventilation and light and give a view from all parts of the room. An outdoor dining terrace on a section of the boardwalk is partially protected by the overhanging new addition to the building. Interior furnishings are contemporary Swedish designs made in this country.

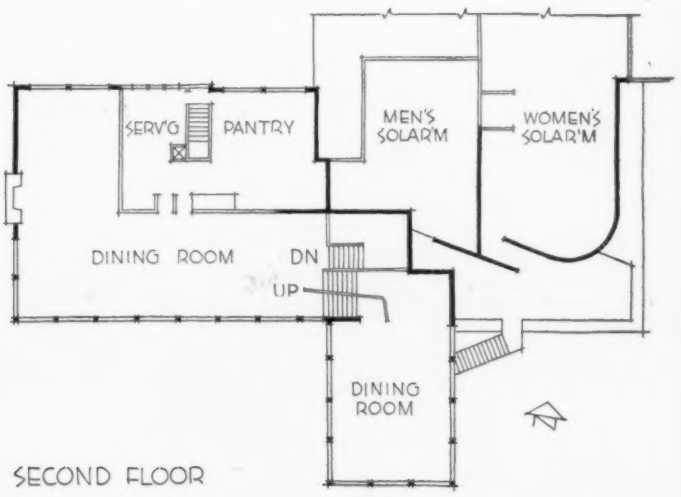
Future plans call for remodeling of sleeping quarters, located in another wing of the building.

Illustration at left shows the hotel as it looked before remodeling—a bleak and cold structure, as compared with the new and improved façade that it now boasts. Entrance from parking area (opposite) unites the old and the new with a simply balanced grace

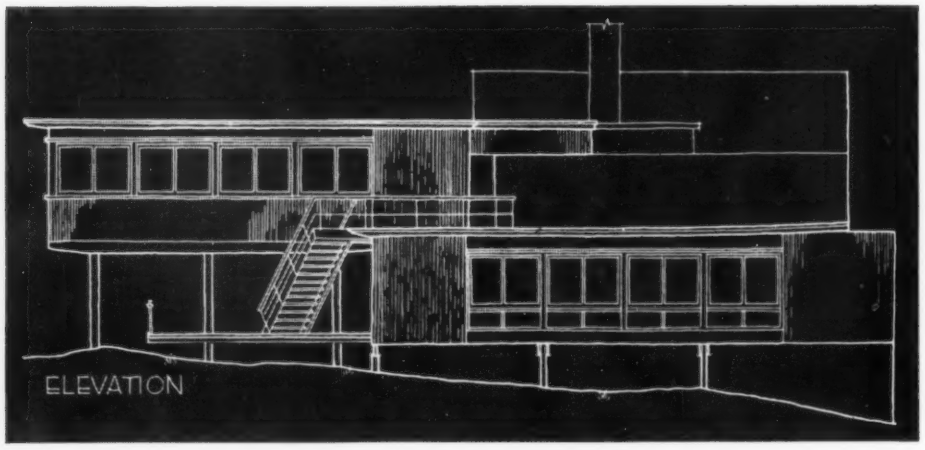
Joseph W. Molitor



FIRST FLOOR



SECOND FLOOR

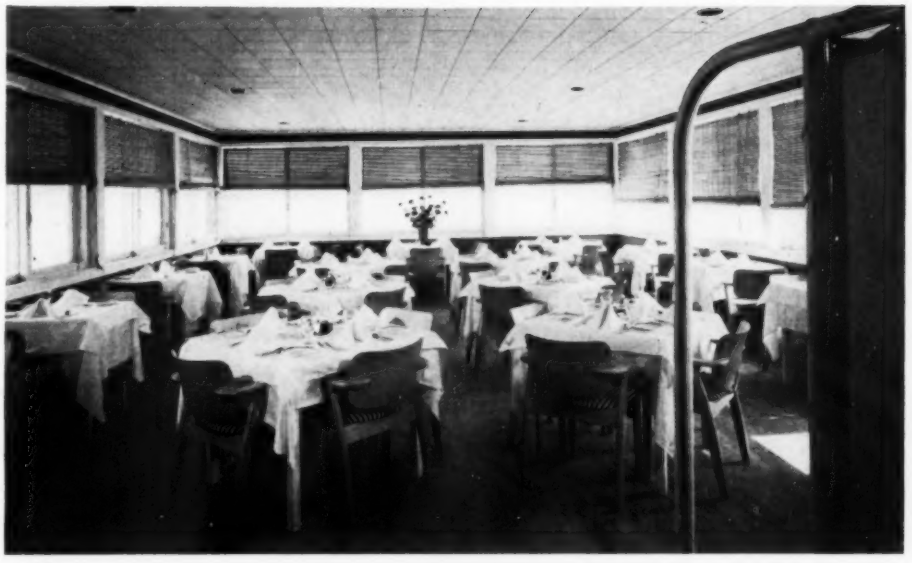


Elevation above shows details of suspended dining room addition over boardwalk. Sliding glass windows in cocktail lounge and new dining room enhance view and provide excellent ventilation

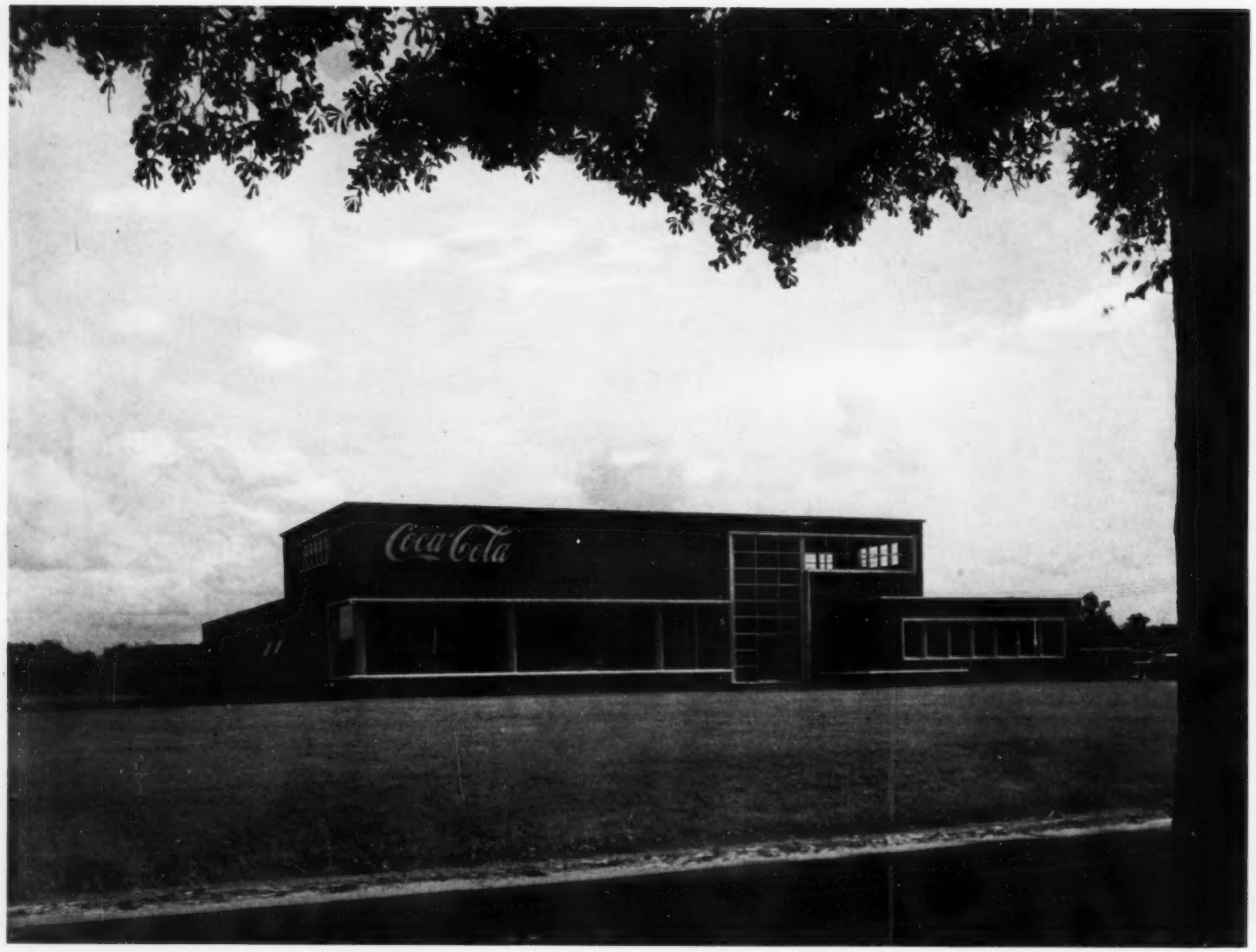
Joseph W. Molitor

Left: steps leading from dining terrace on boardwalk to sun-bathing areas on upper deck. Entrance to lobby and cocktail lounge is through glass doors

Lobby, above, facing entrance from parking area. Entry to both dining rooms is by stairway at left. Cocktail lounge is to right of lobby

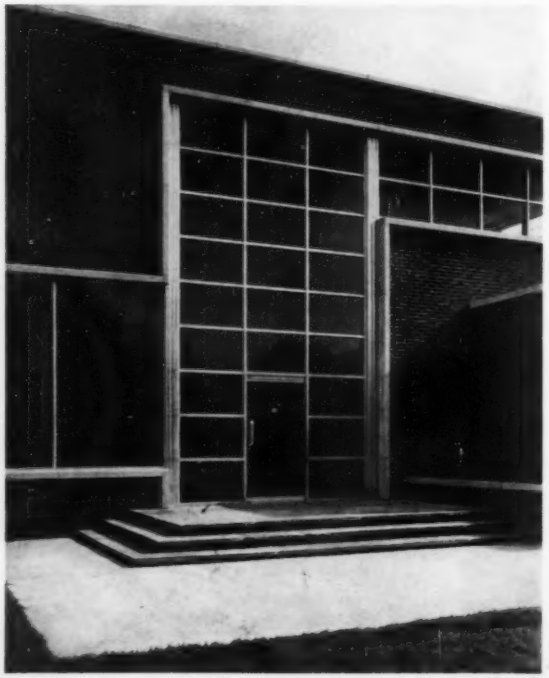


New dining room, above, overlooks ocean; has sliding glass windows on three walls. Bar, below, is accessible to outdoor dining terrace



SUBURBAN SITE FOR COCA-COLA BOTTLING PLANT

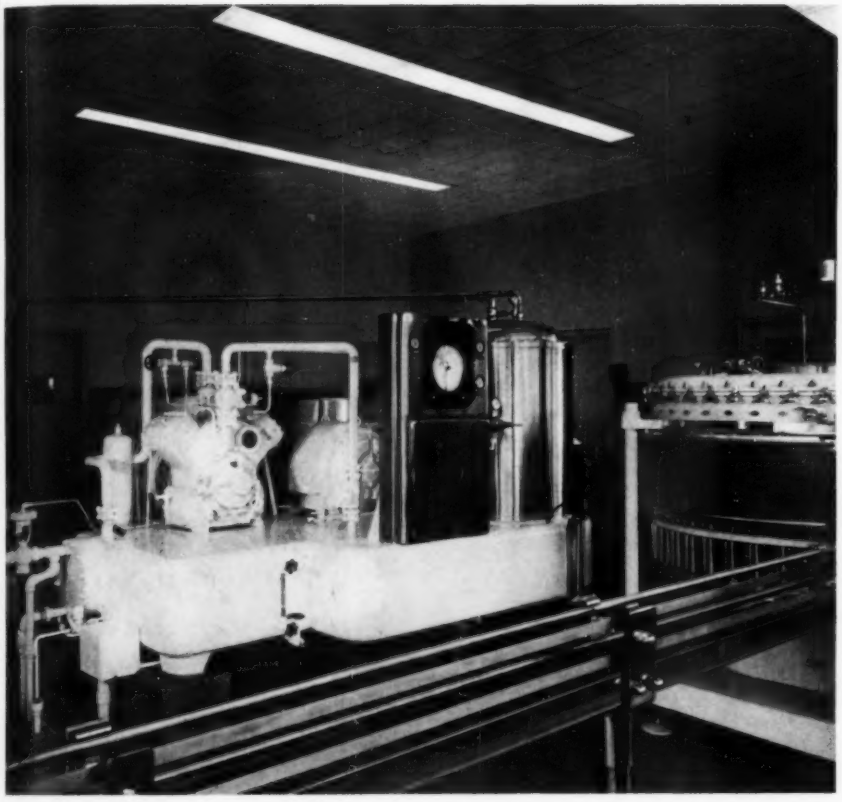
Kinston, North Carolina *John J. Rowland, Architect*

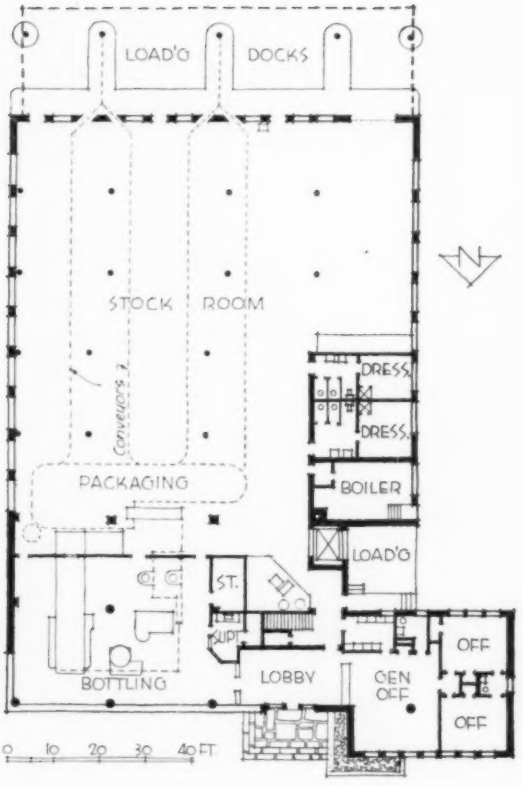


THE SITE for this Kinston, N. C., Coca-Cola bottling plant, on the outskirts of the city, was selected to avoid down-town traffic congestion and provide adequate facilities for off-street loading and unloading.

Following the plan of most Coca-Cola bottling plants — in which the bottling process is displayed to the public — the rear warehouse section is fronted by a large, window-walled bottling room. Bottles travel by a conveyor system from one to the other, affording a capacity of 12,000 bottles per hour. On the second floor, above bottling room and lobby, are caustic, syrup and file rooms, as well as storage space, lobby and conference room.

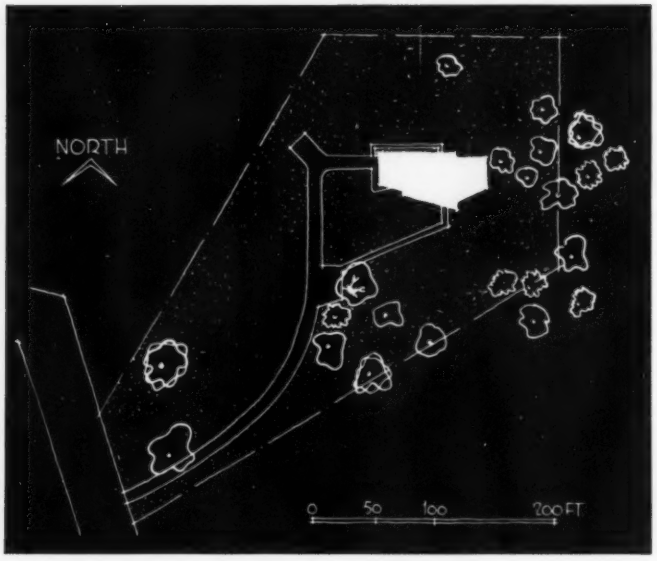
Completed in 1949, the plant was planned for the addition of another unit to the east. Planning consultant was the engineering department of the Coca-Cola Company of Atlanta of which Mr. Lynn LaGarde is chief engineer.





Joseph W. Molitor

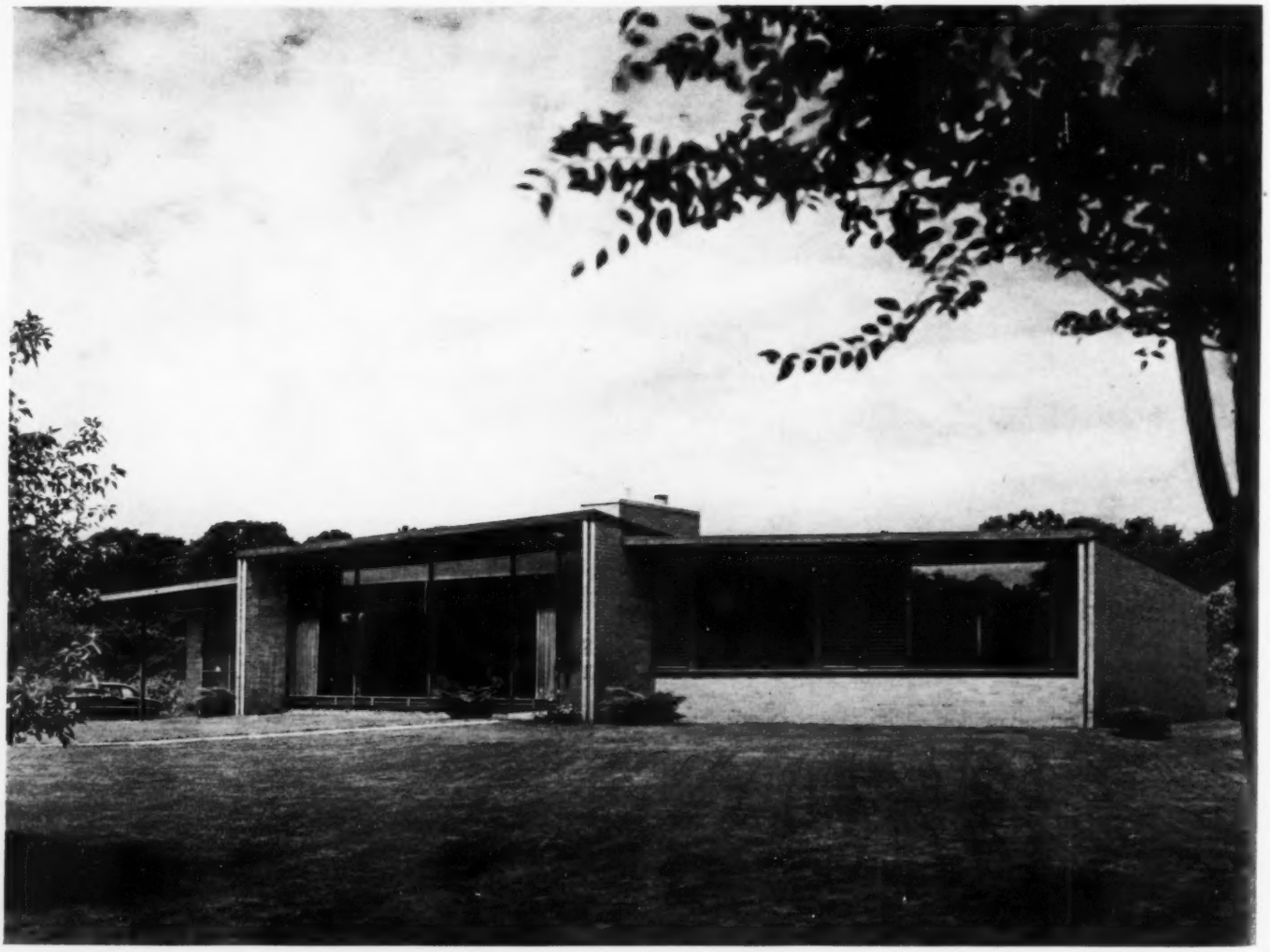
The bottling room, above and right, has quarry tile floor and wainscot and acoustic ceiling. Fan blows across front window-wall to prevent condensation. The offices and lobby have rubber tile floors and acoustic ceiling and are equipped with year-round air conditioning



DESIGNED FOR

House for William E. Neumann

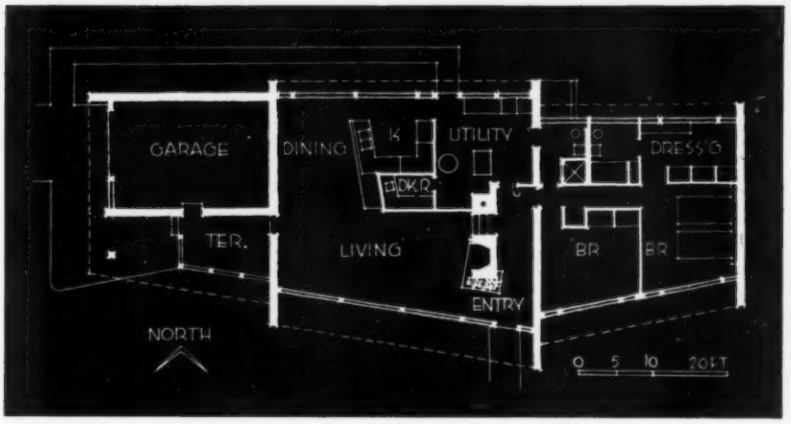
Du Page County, Illinois



Extending brick cavity walls beyond glass plane expresses the three-part plan and supports overhangs. Precise orientation for maximum solar effect. Top and bottom ventilation through screened louvers

INFORMAL LIVING

George Fred Keck–William Keck, Architects



The open living-dining-kitchen area gives the guest at table a pleasant sense of "being near the kitchen" while still enjoying the view

Hedrich-Blessing

THE OWNERS REPORT, "we are experiencing a most comfortable and relaxed life in our . . . house. Satisfying esthetically and for ease of maintenance."

A sense of openness is achieved by sloping the roof up to the south over large glass areas and by a single space for living-dining-kitchen. This almost U-shaped area is wrapped around the owner's darkroom and abuts the utility room. In a maidless household, such an arrangement allows host and hostess to chat with their guests while preparing drinks and dinner.

The wood frame is supported by brick cavity walls; ceilings are acoustical plaster; interior walls brick, plaster or birch plywood; floor is cement finish over circulating hot water radiant heating coils.

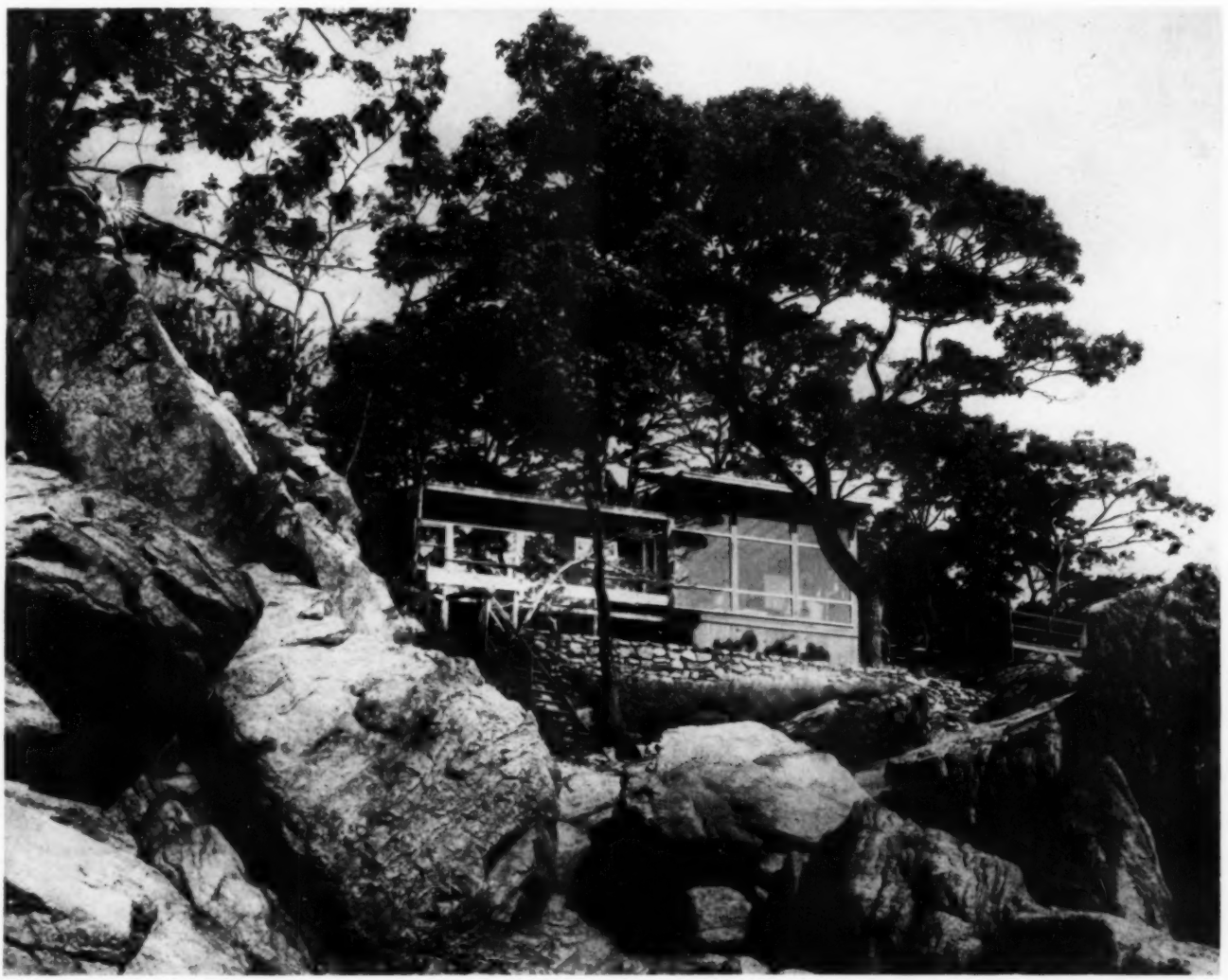
NEUMANN HOUSE

In master bedroom, built-in birch wardrobe divides sleeping and dressing areas. Fluorescent tubes at top of cabinet provide indirect room lighting and also illuminate contents through glass

Hedrich-Blessing

WEEKEND RESIDENCE OF RALPH L. POPE

Smith's Point, Manchester-by-the Sea, Massachusetts



Fred Stone

Eleanor Raymond, Architect

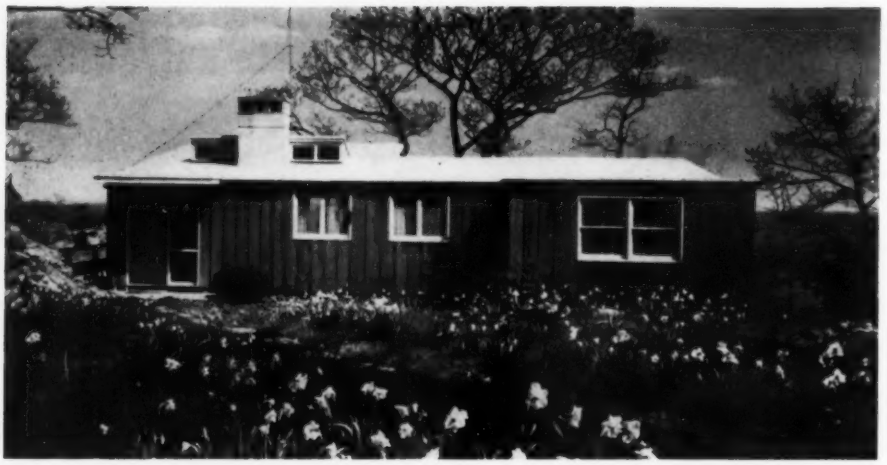
A DRAMATIC SITE on the rocky Massachusetts coast a few miles north of Boston was an important factor in the design of this year-round weekend house. Planwise, however, the emphasis was on ease of operation since the owner maintains bachelor quarters.

The house was placed as close as possible to the edge of the high cliffs to obtain the widest view and to overlook the low-tide pools and seaweed. Both living room and master bedroom face the ocean, with walls on that side almost wholly of glass. A balcony outside the master bedroom, a deck angled out from the living room, and a lower-level barbecue terrace provide for outdoor enjoyment of the view.

In plan the house is simple and compact. The rectangular living room is connected with the kitchen by a bar-counter with doors which can be closed when desired. Guest room and bath are so located that they can be shut off from rest of house when not in use.

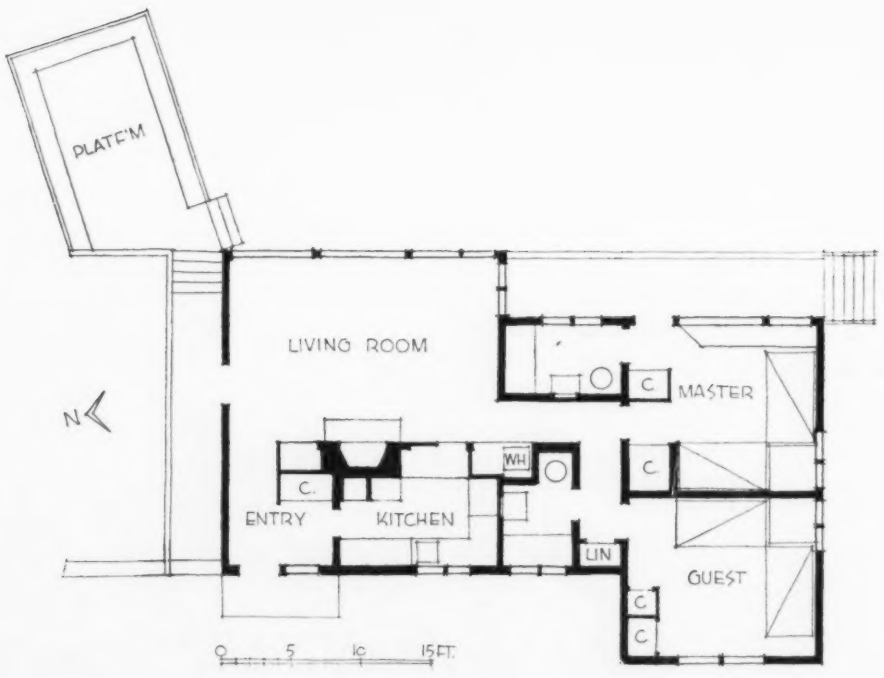
Labor-saving devices are everywhere apparent. The kitchen is minimum-sized, equipped with incinerator, dishwasher and can-dump (trap to barrel under floor). Both bedrooms have specially designed blanket boxes and round bedside tables mounted on large rubber wheels.

Exterior walls are redwood, roof is white pebbles. Living room walls are natural redwood; bedroom walls, plywood. Ceiling in living room, between exposed rafters, is covered with woven banana-leaf material in natural color. Heating is forced warm-air spraying inside surfaces of large glass areas — a system well adapted to the frequent opening and closing of a house used mainly on weekends.



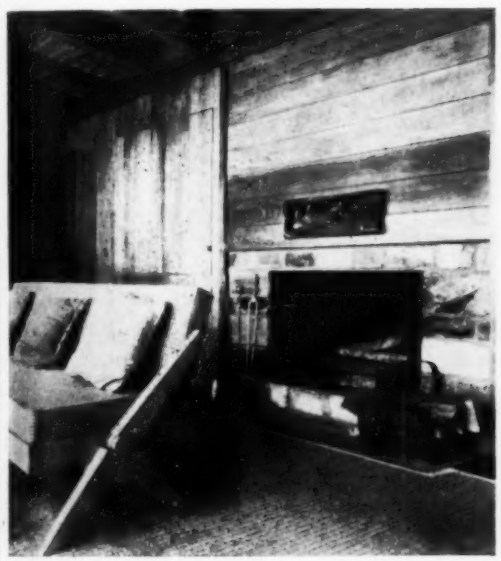
Front of house (left) gives no hint of view on other side. Walk leads from front door (below, left) to platform on rocky promontory

WEEKEND HOUSE



House is planned throughout for servantless living and masculine ease. Front door doubles as service entry since it adjoins kitchen

Left: view of ocean is opened to kitchen by bar-counter which can be closed when desired. Below, left: living room has built-in television cabinet on fireplace wall, "trolley-car" settee with back hinged to face either ocean or fireplace, depending on weather. Below, right: balcony outside master bedroom has steps leading directly to tan-bark barbecue terrace on lower level



Fred Stone

ARCHITECTURAL RECORD'S

BUILDING TYPES

®

***STUDY NUMBER* 194**

ARCHITECTS' OFFICES

1. *Entrances*
2. *Reception Rooms*
3. *Conference Rooms*
4. *Private Offices*
5. *Drafting Rooms*
6. *Storage*
7. *Plans and Exteriors*

Although architects' own offices are hardly new as a building type, the current trend toward decentralization paralleling that of other building categories has made a more extensive study seem in order. This is ARCHITECTURAL RECORD'S first Building Types Study on the subject, but the following individual offices have been published in the magazine since 1947:

Britton, James A., Greenfield, Mass. March 1951, pp. 112–115.
Jessen, Jessen, Millhouse & Greeven, Austin, Tex. March 1951, pp. 116–119.
Thomas-McFarland-Bonsall, Los Angeles, Calif. Aug. 1950, pp. 32–2, 32–3.
Page, Southerland & Page, Austin, Tex. May 1950, pp. 114–115.
Parkin, John B., Associates, Toronto, Ont. July 1949, p. 156.
Lankton, J. Fletcher, John N. Ziegele and Associates, Peoria, Ill. March 1949, pp. 97–99.
Abrahams, David J., & Associates, Boston, Mass. July 1948, pp. 100–101.
Felciano, Clarence, Santa Rosa, Calif. July 1948, pp. 97–99.
Polevitzky, Igor B., Miami, Fla. July 1948, pp. 94–96.

At the beginning of this new year, perhaps it is timely to note that during 1953, the RECORD will present the 200th Building Types Study in its continuing program to cover significant developments keyed to changing conditions.

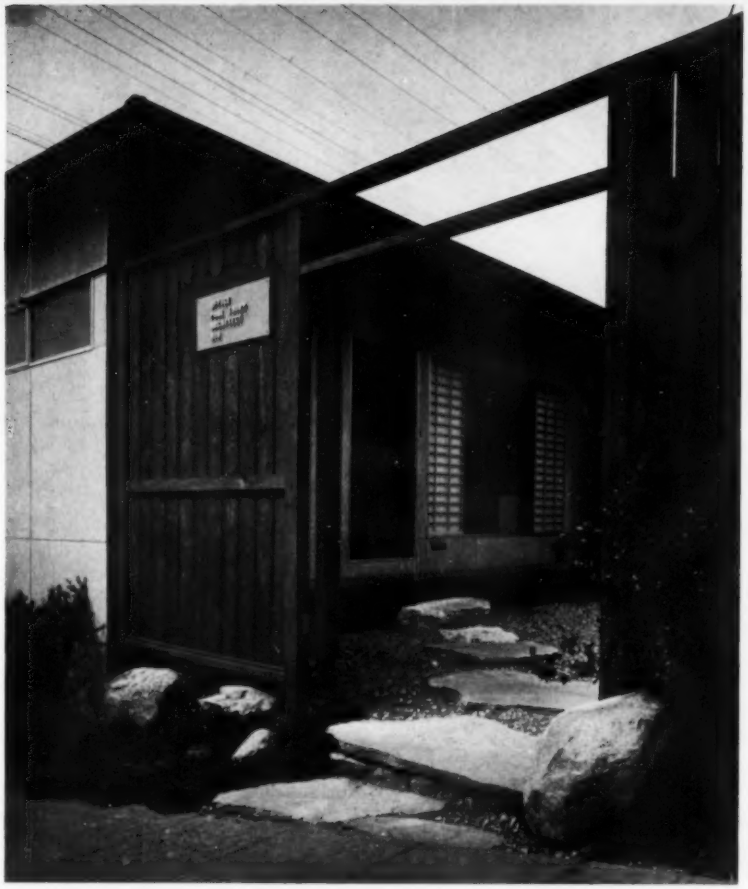
A NEW FLEDGLING seems to be quietly taking its place among the variety of specialized building types we have today. Between periods of cajoling clients into building offices with efficient and pleasant working conditions, and with good public relations qualities, more and more architects are stealing time to apply their theories and logic to the housing of their own firms.

Perhaps the greatest impetus to the development has come from a change of heart in the people an architect deals with. A drab, hyper-conservative office is not usually necessary these days to convince them of an architect's basic soundness. Instead, they generally seem more impressed with a good example of the type of work that can be expected of him. Most clients want buildings that both make and save them money, and that have a certain amount of prestige: an architect's office with these qualities can be one of the best forms of publicity.

Another factor is the discovery that many types of clients will go to outlying areas to consult an architect, some by preference because they live nearby. Such locations offer lower rents or taxes, easier parking, more pleasant surroundings. To help finance their own buildings in these areas, many architects are including extra rental offices in the plans. Some have found that such rentals also take care of a good portion of their overhead costs. The extra offices also serve as expansion room if the firm should outgrow the original space allotted to it.

Nineteen offices of various types, sizes and locations have been selected for this study to illustrate the various trends current throughout the country. To afford a closer comparison, the basic elements which are common to most offices, regardless of size, have been grouped together in the outline listed at the top of the page. The larger offices have varying multiples of these elements. Major attention has been focused on interiors, where the architect-client most often expresses his individuality.

ARCHITECTS' OFFICES: 1—ENTRANCES

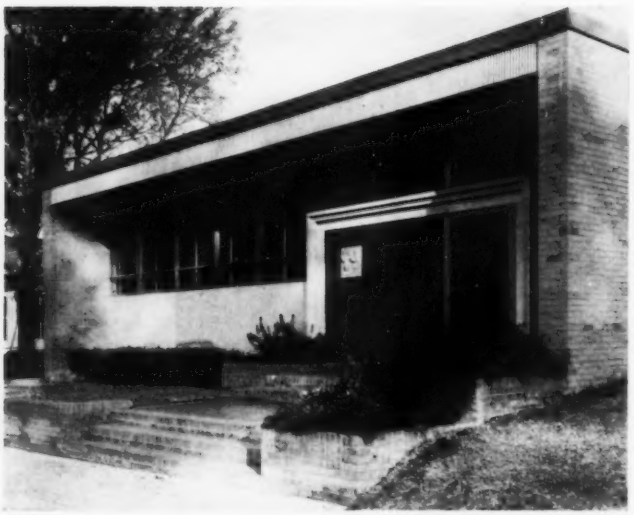


Charles R. Pearson

I. B. Lindenthal

Pleasant off-street entrances add privacy and quiet to the offices of Paul Thiry, Seattle (top) and Staub, Rather and Howze, Houston (bottom). Thiry's office (plan p. 159) has asbestos board exterior, aluminum trim. Staub, Rather and Howze (plan p. 166) use lightweight concrete canopy and screen, pink brick walls

H. O. Wiseman



A wide overhang shelters entrance and front windows in office of Neild-Somdal-Associates, Shreveport, La. (above). Side walls are light pink brick. Light colored stone is used below windows and around door. Granite panel by door displays firm name and sculptured panel. Plan on p. 165

Joseph W. Molitor

Biggs, Weir and Chandler, Jackson, Miss. (above), use scheme similar to one above left. Interior blinds give privacy, closed front appearance. Siding is white, with red panel by black door. Plywood sign is black with yellow-orange letters. Plan on p. 164

Pace Associates, Chicago, provide a pleasant variation from the typical office floor entrance. A clear glass door, flanked by translucent glass panels gives an attractive vista from the elevator lobby into the reception room (see opposite page). Plan on p. 162

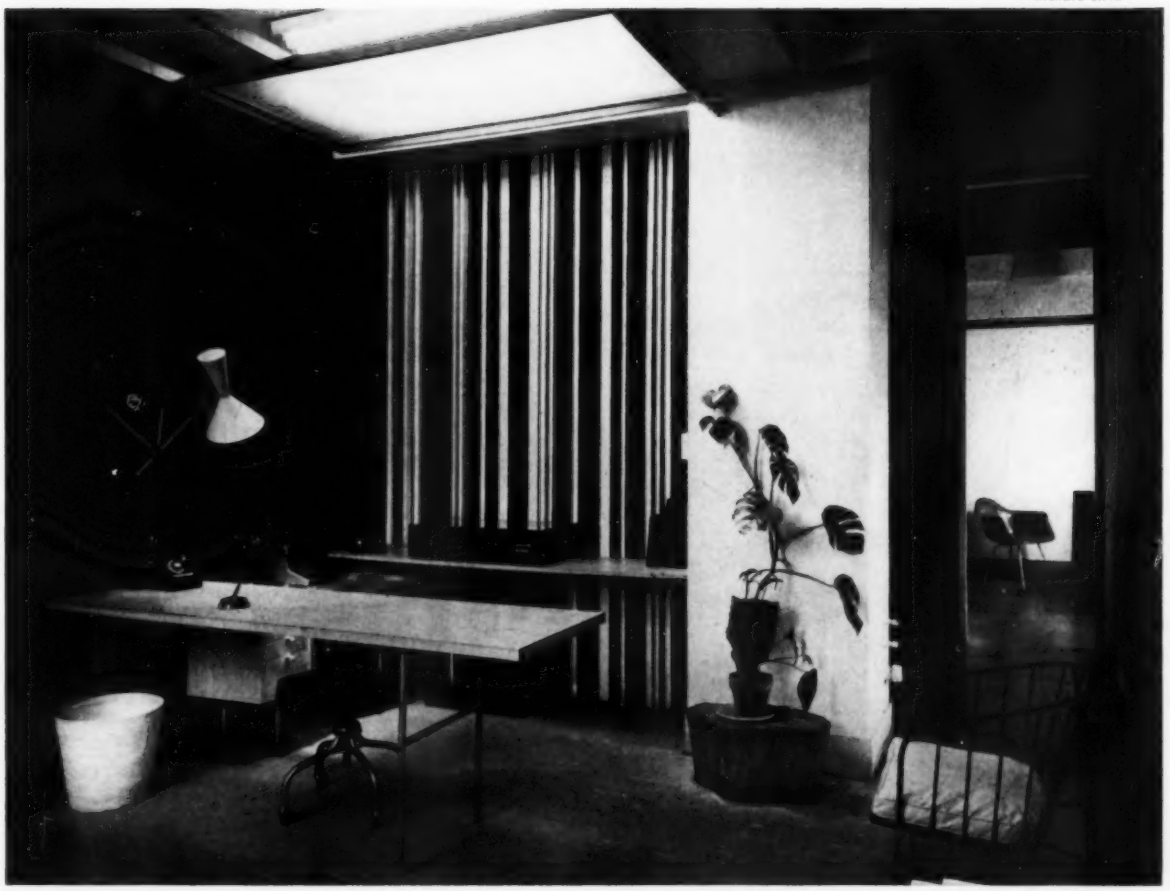
Dewey G. Mears

An open, shop-front scheme is used to dramatize reception area by Adams & Adams, Dallas, Tex. (above). Firm name is boldly displayed on tapered overhang and on brick wing wall. Plan on p. 164

Bill Hedrich, Hedrich-Blessing

ARCHITECTS' OFFICES: 2—RECEPTION ROOMS

Richard Shirk



Leinweber, Yamasaki & Hellmuth's Detroit offices (above, below right) are mainly black and white. Accents of red-orange and blue are carried out in vertical slats hiding shelves behind desk, and on frame of dropped ceiling. Left wall is blue; others, white plaster or birch. Floor is gray and white mottled asphalt tile. Ceilings are white except in conference room, which is black. Plan p. 162

Bill Hedrich, Hedrich Blessing

Pace Associates (above) use black and white to accent natural finish teak walls, natural color cork tile floors. Knoll furniture includes white plastic laminated tables on black metal legs

Richard Shirk

ARCHITECTURAL INTERIORS

Design | Details | Materials | Equipment

Joseph W. Molitor

The Jackson, Miss., office of Biggs, Weir and Chandler has red and white walls, blue door by receptionist's desk. Perforated wallboard in blue, yellow, green and gray used as partitions. All floors are black asphalt tile. Plan on p. 164

Gabriel Benzur

The office of Aeck Associates in Atlanta has a built-in desk and shelf unit in striated plywood with natural cork top. Floors are red and white on mocha asphalt tile; walls, gray striated plywood and cocoa brown plaster. Recessed fluorescent and incandescent lighting placed in acoustic tile ceiling. Furniture includes molded plywood chairs in natural birch. Plan on p. 162

Julius Shulman

Redwood and sand colored plaster are background for green and yellow accents in Walter Wagner's Fresno, Calif., office. Counter and rail control stair, and are yellow and green laminated plastic (green repeated in office draperies). Obscured glass separates secretary from front office. Main floor is quarry tile; asphalt tile used upstairs. Plan on p. 160

Charles R. Pearson

A garden entry with a large picture window leads into the office of Paul Thiry. Walls are plaster and plywood in natural finish; floors are brown-red asphalt tile; doors are olive green. Much of the furniture in the office designed by the staff. See plan, p. 159

Edward D. Stone has offices in a remodeled brownstone house in New York City. The main floor houses reception, office and drafting areas. Most furniture is architect's own design. Photos below show reception area

Floor is brown and terra cotta asphalt tile in large squares with carpet of cafe au lait. Lime colored burlap covers window wall opposite natural wood screen. Ceiling is finished in natural birch plywood squares

Ezra Stoller

Ezra Stoller

H. O. Wiseman

Stuart A. Weiner

Left: Neild-Somdal-Associates use deep browns and off-pinks as background colors for green lounge furniture. Walls are pink brick and burlap, with a marble panel by door and display panel for current work. Floors are brown and pink rubber tile. Plan p. 165. Right: Harold Ekman's office in Phoenix has warm tones with walls of natural red brick, natural redwood. Floor is gray asphalt tile; cabinet work, light gray with yellow vinyl tops. Chairs designed by Hans Knoll; Danish tables. Plan p. 160

Jahr-Anderson Associates, Inc., Dearborn, Mich., use brick, stone, glass, Douglas fir and red cedar on walls. Ceiling is natural wood, acoustical tile, dramatized by concentric ring lighting. Wood supports create separation of rooms and open feeling. Floor, asphalt tile throughout. See opposite page

Richard Shirk

Ezra Stoller

Ed Stone has used bamboo slats strapped to walls, complemented by natural hemp squares on floor. Haitian primitives adorn the walls; lime colored draperies and accents in the primary colors on a suspended mobile add to decor of room. Design area is shown in background of photo

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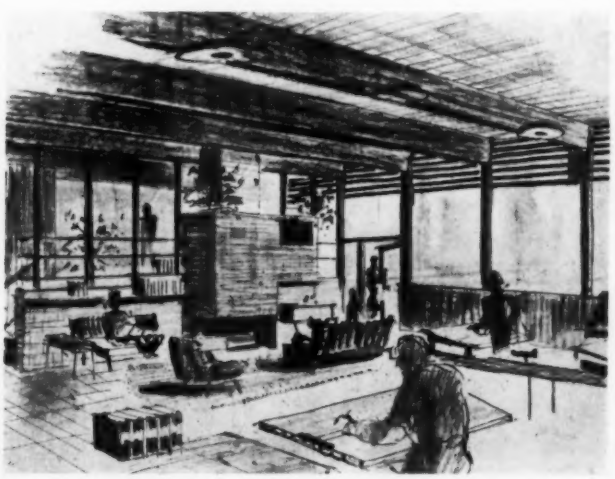
Below: Jahr-Anderson fireplace wall of Tennessee ledge rock is center of lounge-conference area of drafting room. Floor is bright yellow with a play of red, black and green in abstract pattern, separating it from light green flooring used in main drafting area. Plan, p. 165

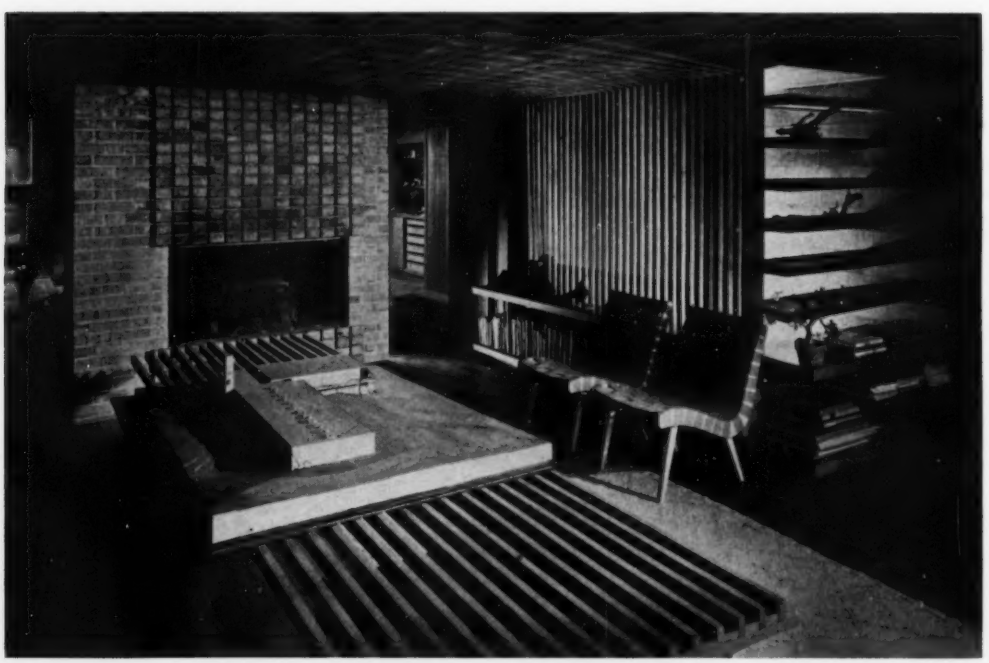
Richard Shirk



J.R. Lindenthal

Staub, Rather and Howze's conference area overlooks garden. Concrete sun shades prevent glare in room. Walls are covered with natural textured cotton, also used as drapery fabric, creating a restful atmosphere as compared with the apricot and Chinese blue of reception area. Floor, cork; table, birch lacquered gray. Plan p. 166

Rough sawn redwood walls, floor of edge grain fir in a natural finish form the background for Schweikher and Elting, Roselle, Ill. Chairs designed by Hans Knoll, upholstered in green fabric, are grouped by fireplace for view of model displays (opp. page). Shelving and benches are polished redwood; ceiling rough sawn redwood boards



Bill Hedrich, Hedrich-Blessing

Charles R. Pearson

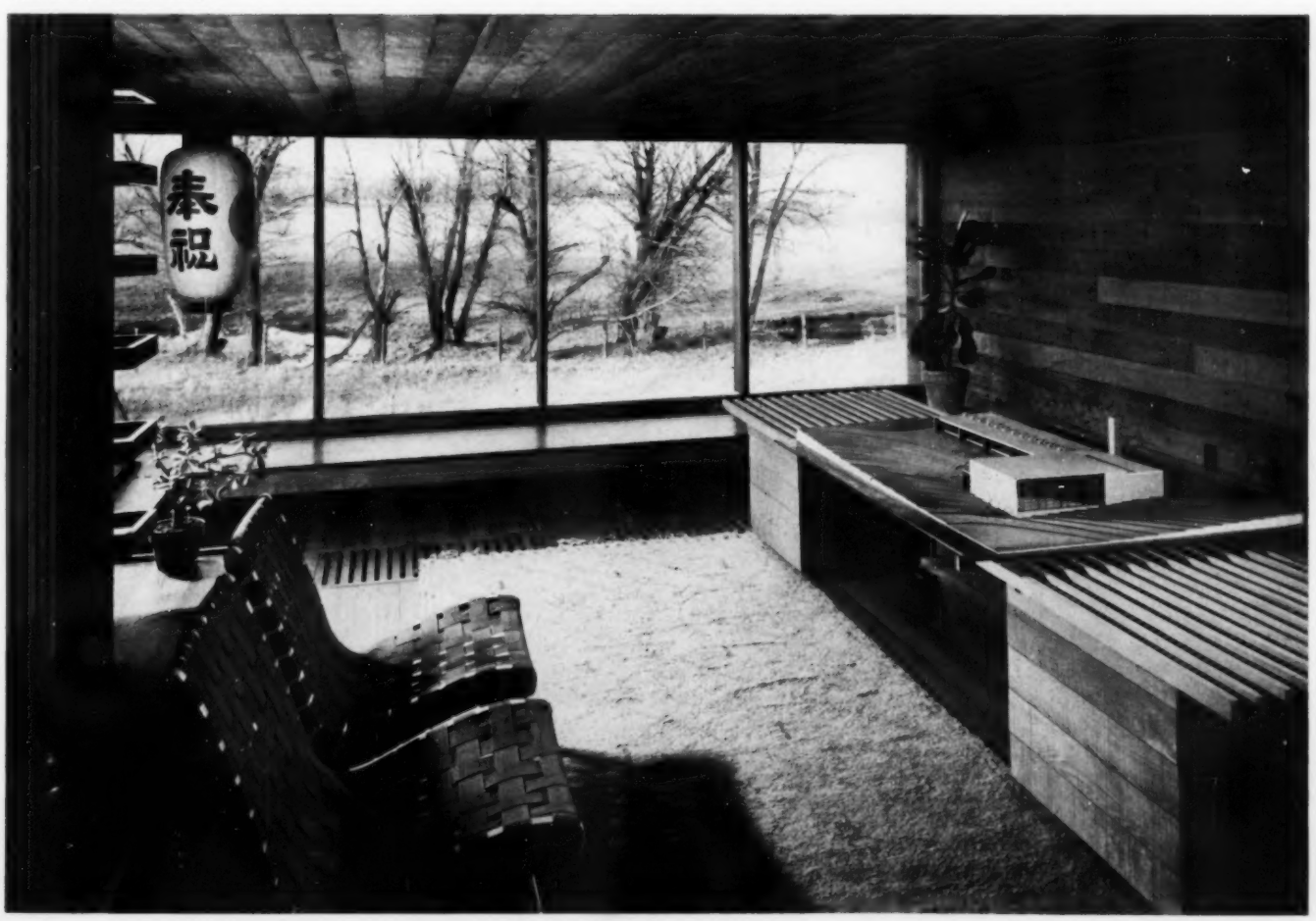
Charles R. Pearson

I. B. Lindenthal

Paul Thiry's conference room (left) is well lighted by window screens covered with glass fiber cloth. Interior walls are plaster and plywood, natural finish. Wilson, Morris and Crain's office in Houston (right) has wall of copper foil mounted on asphalt backing. Ceilings are warm gray with acoustical asbestos blown on; floors, scrap marble. Vertical cloth blind in chartreuse and furniture covered in greens, grays and blacks complete room. Plan p. 164

Glass window wall in conference area for Schweikher and Elting overlooks countryside, provides good lighting for displays. Plan on p. 163

Bill Hedrich, Hedrich-Blessing



ARCHITECTURAL INTERIORS

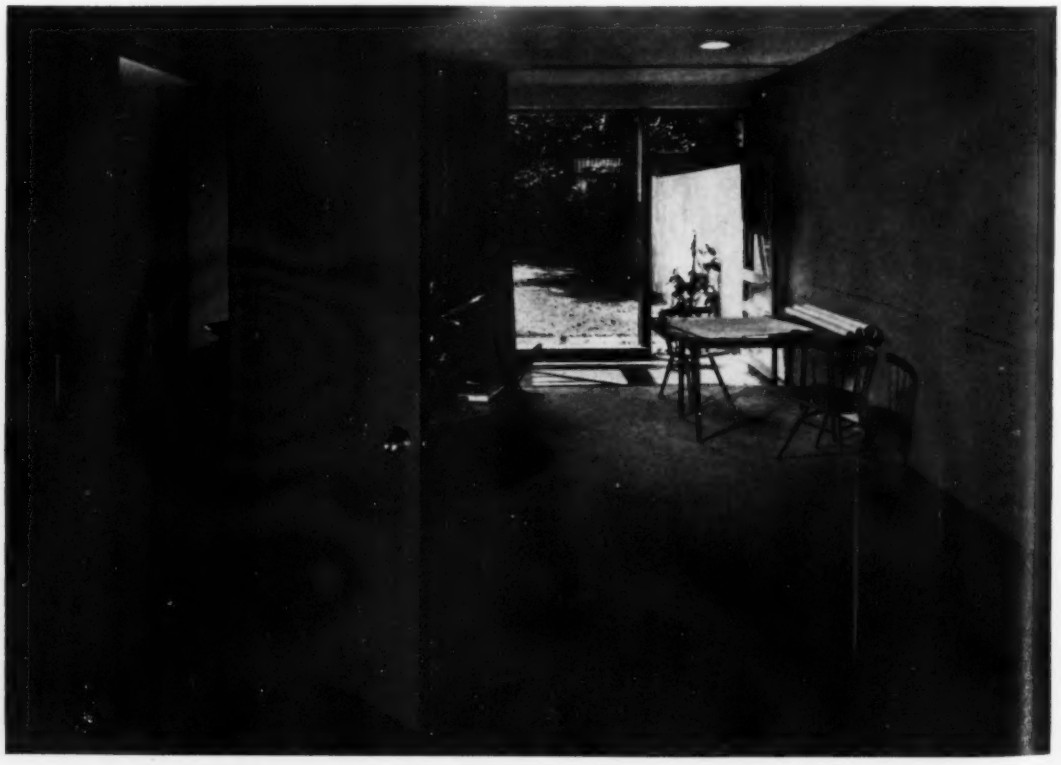
Design | Details | Materials | Equipment

H. O. Wiseman

Neild-Somdal's conference area opens on court, has pink-tan carpet and draperies, book-case wall. Other walls are cork, brick. Ceiling is acoustical tile around center-dropped cove lighting. Furniture upholstered in brown. Plan p. 165

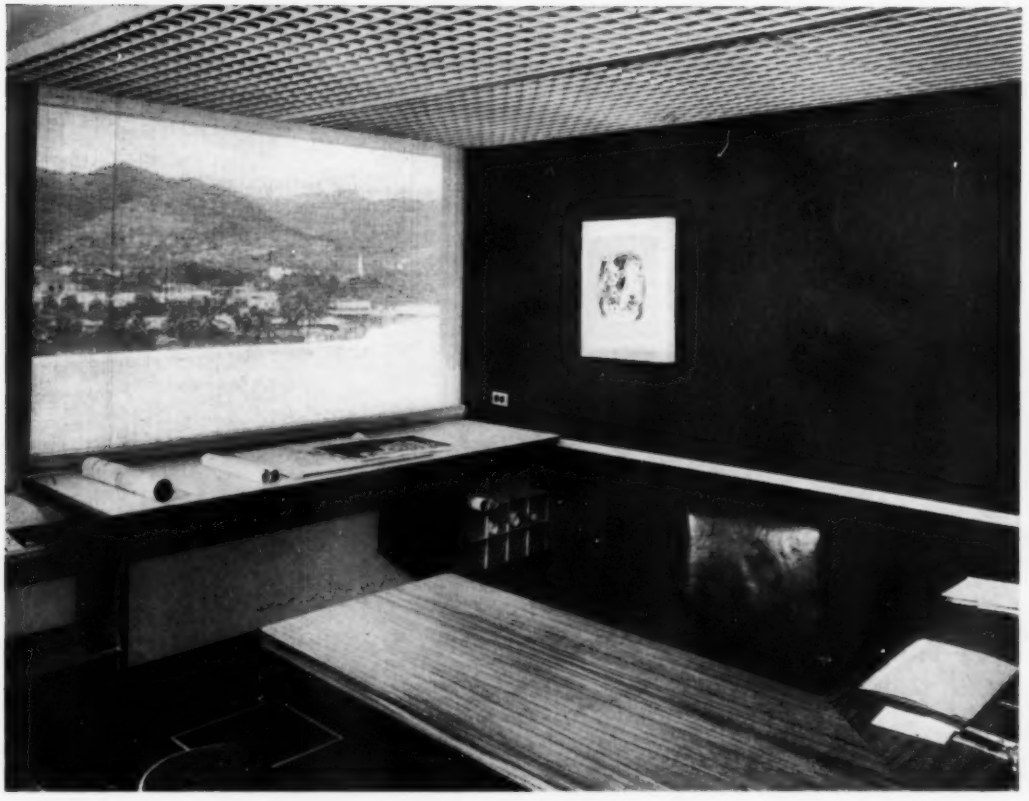
Bill Hedrich, Hedrich Blessing

Conference room for Pace Associates has corrugated translucent vinyl plastic ceiling illuminated above with fluorescent lighting. Saarinen chairs in black and brown cloth surround light oak table, designed by firm. Plan p. 162

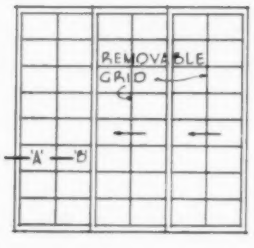


Gabriel Benzur

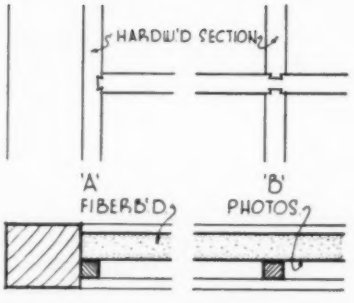
League, Warren and Kiley in Macon, Ga., combine conference area with private office. Use of much glass, and carpet and wall of same gray-green color gives open feeling. White nylon draperies cover one window; a corded fabric covers opposite end of room. Ceiling is acoustical plaster, white throughout. Furniture by Hans Knoll, in browns and oranges. Plan on p. 161



R. Wenkam



·SHOJI · DOORS·



Vladimir Ossipoff's Honolulu office is done in tones of dark egg plant and white—used on plaster walls. One window wall covered in vertical and horizontal split bamboo draperies; remaining wall has sliding panels of superimposed wood grid for insertion of photos (left detail and below). Sliding wall opens to enlarge conference area. Ceiling is egg crate louvers with concealed lighting. Plan p. 162

R. Wenkam

Bill Hedrich, Hedrich-Blessing

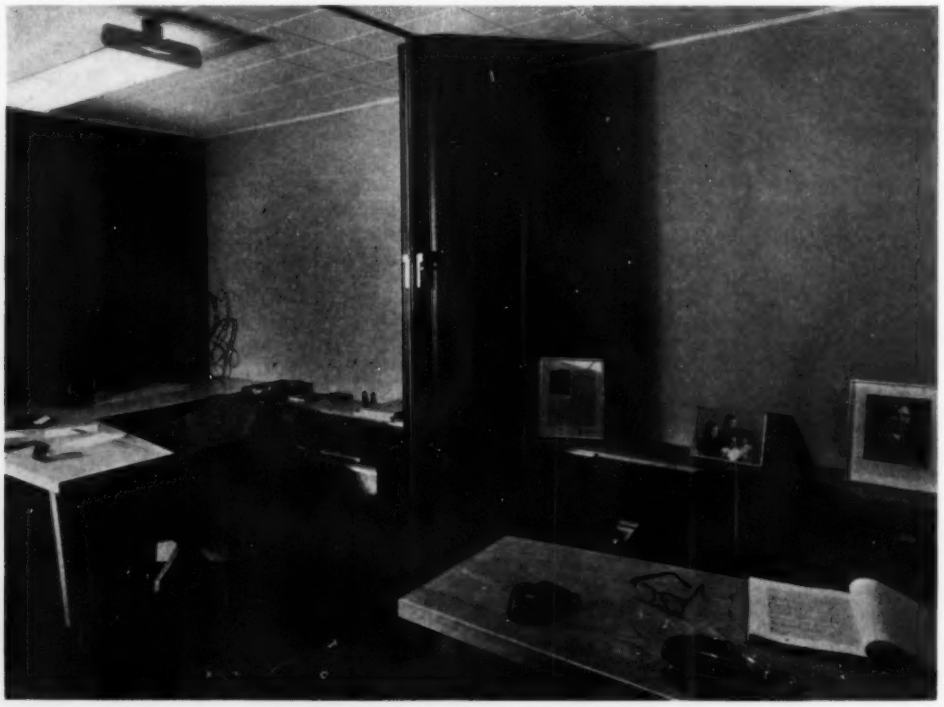
Stuart A. Weiner

Harold Ekman's private office has medium brown cork floors. Natural monkscloth stretched over boards used for tacking purposes, adding color and texture contrast to redwood walls. Center light, adjustable suspension; ceiling, acoustical tile; furniture, Danish manufactured with Knoll chairs. Plan p. 160

Ezra Stoller

Edward Stone has designated above office as his design area. Walls are natural brick; natural colored hemp squares are used on floor. A Calder mobile in black and primary colors is suspended from ceiling; Haitian primitives adorn walls and carry out color accents. Furniture, Stone's designs

A green folding partition separates offices for Associated Architects (Wirtz, Calhoun and Tungate) in Houston. Three walls are waxed redwood plywood; remaining wall, yellow sheet rock. Floor, brown marbleized asphalt tile. Desk chairs covered in brown; other office chairs are gray plastic. Birch desks designed by architects. Plan p. 163



I. B. Lindenthal

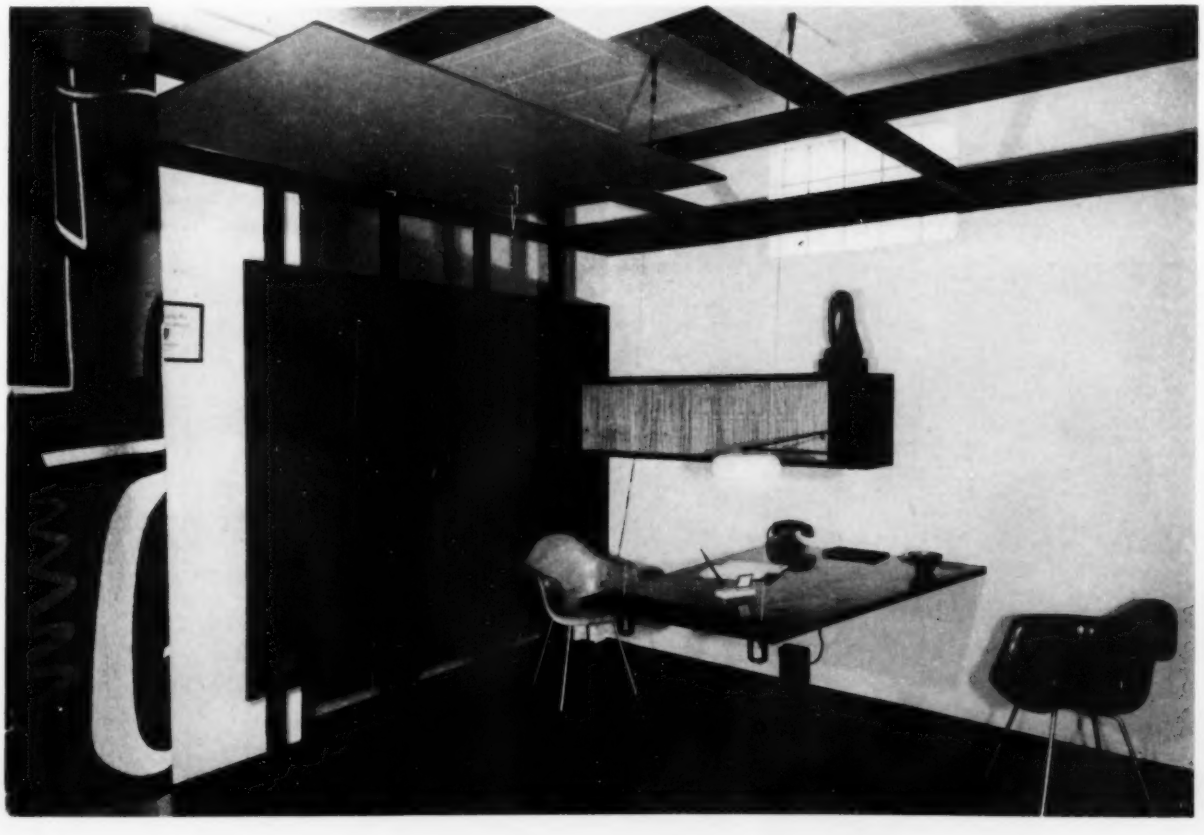
Gabriel Benzur

Private office for Aeck Associates has gray striated plywood and rust painted plaster walls; floor is asphalt tile in red and white on mocha. Venetian blinds are eggshell with chocolate brown tapes. Furniture consists of black molded plywood chairs, natural birch desks, walnut tables

Charles R. Pearson

Paul Thiry's office has plaster and plywood walls in natural finish. Floor is brown-red asphalt tile. Maximum light is admitted through Shoji window screens covered with glass fiber cloth. This window also reduces glare, contributes Oriental influence. Office is clean cut, uncluttered

Bernard M. Goodman's office in Miami has black asphalt tile flooring, white plaster walls. Panel behind desk is green; 2 by 4 supports, black. Wall cabinet black with prima-vera doors; shell chair red, chrome legs. Desk is slab of black marble, supported by steel brackets at wall, steel tiller ropes at free end. Ceiling panel over desk, red. Drapery (left) black pebble cloth with red and white abstract print



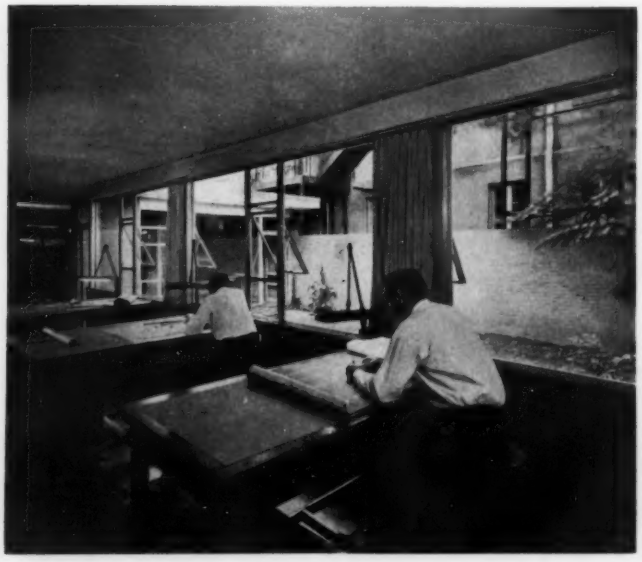
Roda

ARCHITECTS' OFFICES: 5—DRAFTING ROOMS

B. Lindenthal

Wirtz, Calhoun and Tungate's drafting area has yellow cabinets and waxed redwood up to window sills. Tables are 3 by 7 birch slab doors on pipe legs. Bookcases are conveniently located in the center of the long room, which extends the entire length of the building

Cabinet wall in the drafting room of League, Warren and Riley is deep aqua; other walls are beige. Cabinets at rear of room are painted terra cotta. Light gray percale drapes at windows give softened effect. Room has counter with sink, housing cabinets and refrigerator beneath



Gabriel Benzur

The drafting room of Philip Duke West in Hinsdale, Ill., has painted plasterboard and waxed birch plywood walls. Ceilings are plaster board finished with heavy muslin and flat paint; floors are tan asphalt tile. Illumination is by fluorescent lighting. Tables, storage type. Because of proximity to neighboring building, windows have translucent glass. Plan p. 161

Bill Hedrich, Hedrich Blessing

Joseph W. Molitor

Biggs, Weir and Chandler have used vertical carsiding on some of the walls in drafting room, with ceiling of exposed beams and deck, painted white. Fluorescent lighting and window wall provide excellent light. Wide blue counter at window permits extra work space by tables. Colored panels may be set up to separate drafting areas. Door, pine louvered

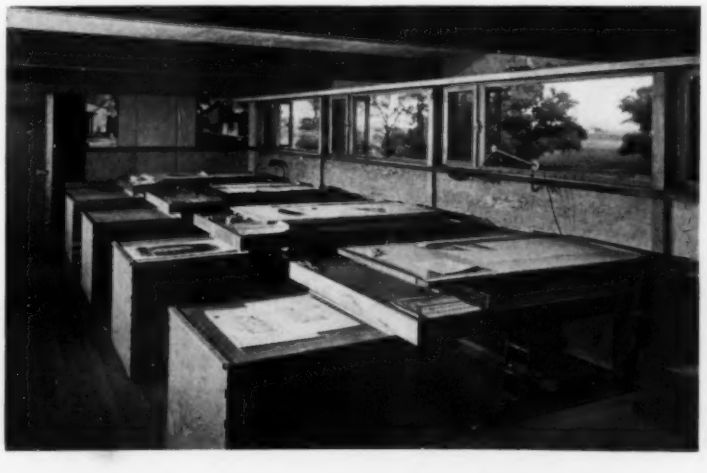
Richard Shirk

Drafting area of Jahr-Anderson has a 13-ft 6-in. ceiling with underside of roof deck exposed and finished natural. Rear wall is soft green with yellow flecks in vitreous cement over cinder block. Floor is light green asphalt tile. Lighting fixtures are concentric ring louver around silver bowl lamp with white translucent plastic domes, dramatizing natural wood ceiling

Stuart A. Weiner

Light natural colored redwood provides a pleasant background for the drafting area of Harold Ekman's office. Floor is gray asphalt tile; ceiling, acoustical tile with recessed lighting. Natural daylighting is admitted through whole window wall

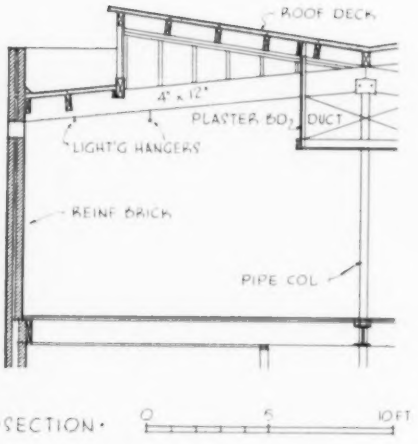
Exposed walls in Schweikher and Elting's drafting room are rough-sawn redwood and fir plywood. Ceiling has exposed fir beams with fir plywood between beams; floor is edge grain fir. Drafting tables, shelves, drawers designed by architects



Bill Hedrich, Hedrich-Blessing

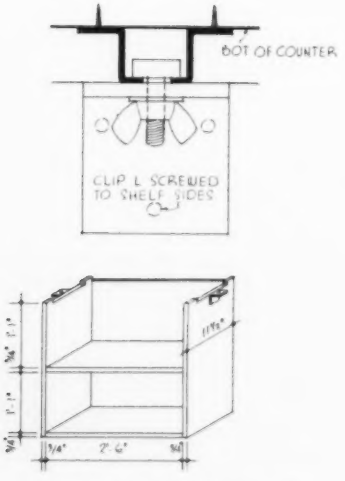
Bill Hedrich, Hedrich Blessing

Julius Shulman



Clerestories (detail at right) provide additional light in the drafting room of Walter Wagner. Walls are brick and yellow plaster; ceiling is light yellow plaster board. The light colors in the room reflect light from the clerestories to compensate for the lack of windows by drafting tables

H. O. Wiseman



The drafting room for Neild-Somdal has gray asphalt tile floors; acoustic ceiling. Walls are mostly green plaster, with some glazed structural tile under windows and pink brick behind storage cabinets and counter. Counter in center of room serves as extra work space with storage beneath (detail, right)

Charles R. Pearson

Paul Thiry's drafting room has plaster and plywood walls. Room is well lighted by large glass areas and lighting fixtures which raise and lower on a track. Floors, brown red; doors, olive green

Joseph W. Molitor

Storage space has been adequately provided for in the office of Biggs, Weir and Chandler. In the conference area, or library, cabinets line two walls—some as open bookshelves; others which have doors make it possible to tuck material out of sight. The floor is black asphalt tile; ceiling is acoustical tile and exposed beam and deck, painted white. End wall is a perforated wallboard, painted blue. Remaining wall is birch plywood and exposed masonry

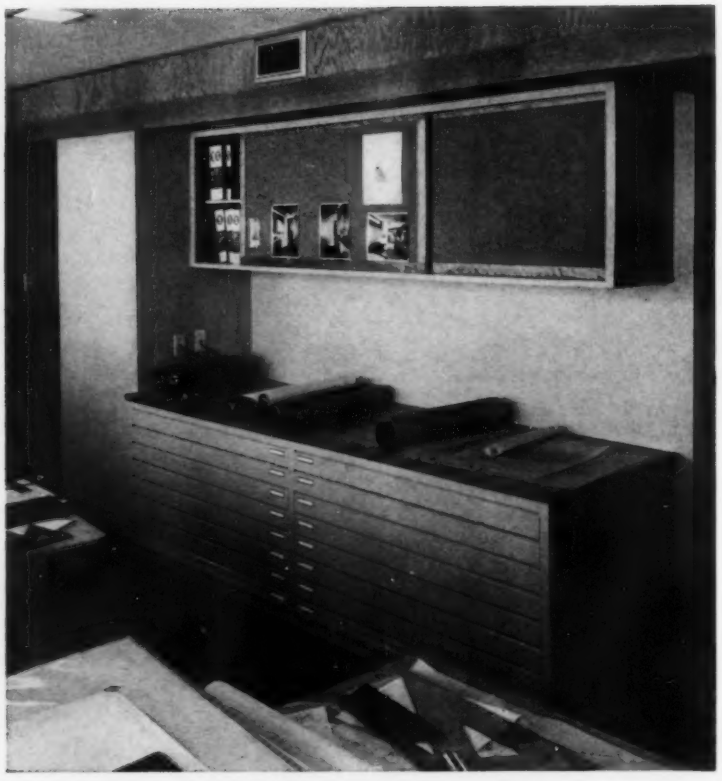
The office of League, Warren and Riley has storage facilities located in the plan room, which also serves as a passage way. Cabinet wall in this room is deep aqua, a pleasant contrast to the beige colored adobe on masonry walls. Terra cotta cabinets in rear of drafting room provide adequate storage space, and introduce an additional color accent

Gabriel Benzur

ARCHITECTURAL INTERIORS

Design | Details | Materials | Equipment

Stuart A. Weiner



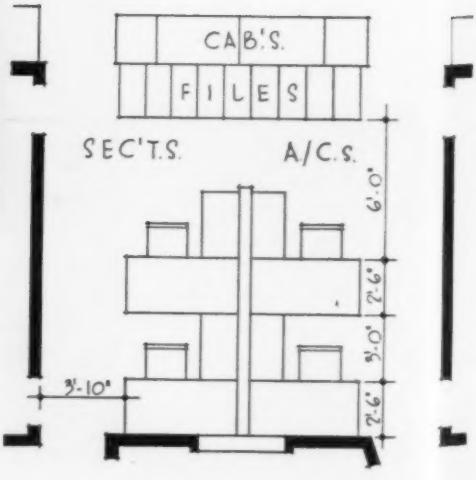
I. B. Lindenthal

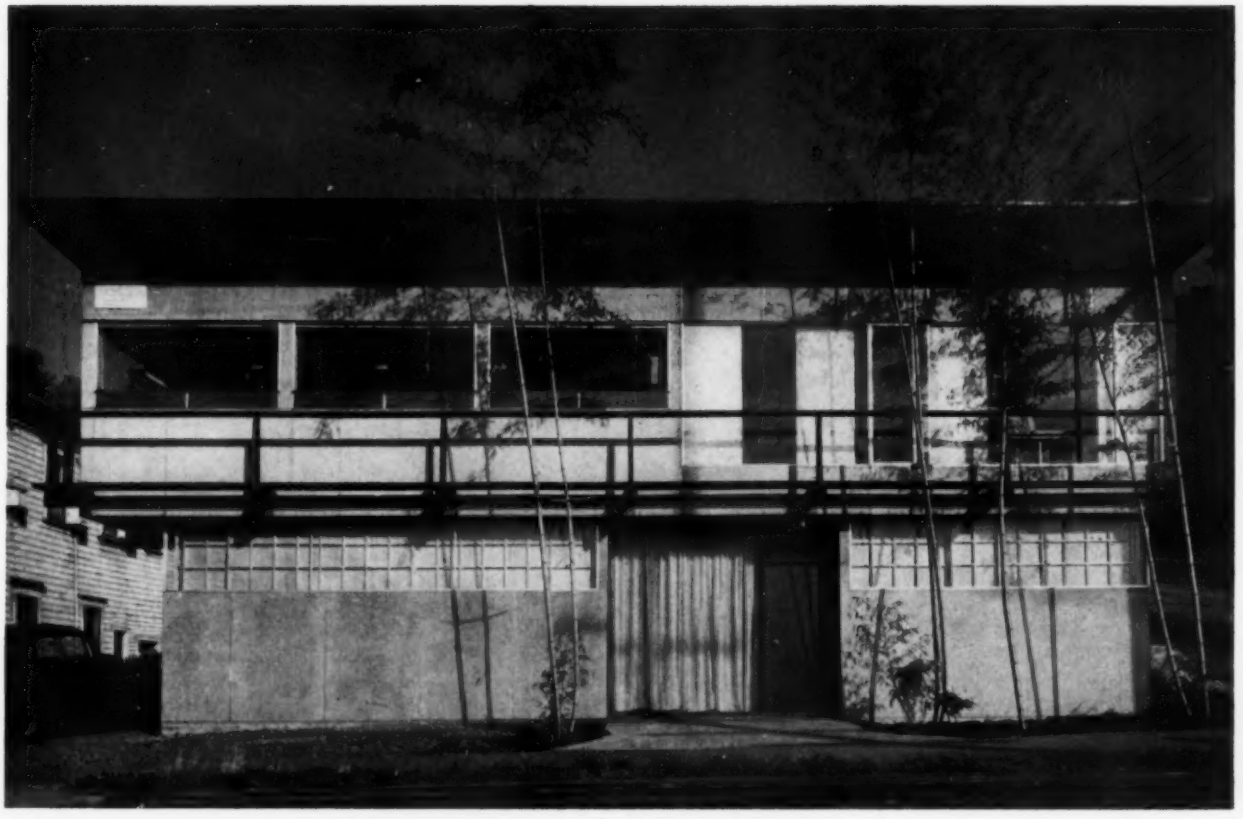
Storage facilities for Wilson, Morris and Crain (above) in the drafting room of the offices: large files containing many shallow drawers are placed in the center of the room, and a vertical file for blueprints is set against the wall

Left: Harold Eckman's office also organizes storage space in its drafting room. File cabinets are placed in wall recess beneath wall-mounted bookshelves. Cabinet work is light gray with soft yellow vinyl tops to blend with gray asphalt floors

I. B. Lindenthal

Wirtz, Calhoun and Tungate have used a section of the secretarial and accounting room to store material. Files are placed against rear wall which opens into drafting room. Larger storage cabinets are on the reverse side of the wall, as shown in detail adjoining photo. Desks in illustration were designed by the architects



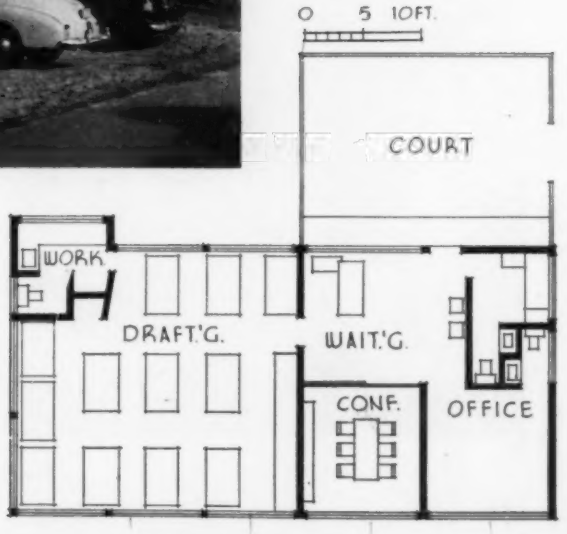


Charles R. Pearson

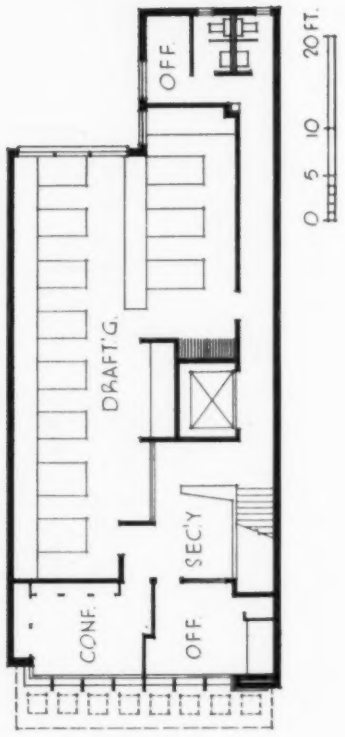
Paul Thiry's office in Seattle has a central location, close to town and principal highways. Lower floor was planned for rental; upper floor for architect's use is shown in plan below. Photo below shows early stage.

The sloping site gives ground level entries to both sections of building, parking for six cars. Construction is frame with asbestos board exterior, aluminum trim, asbestos roof

Charles R. Pearson



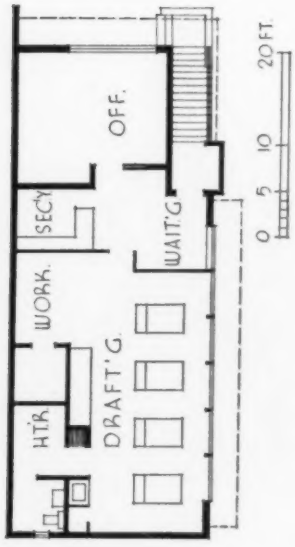
Julius Shulman

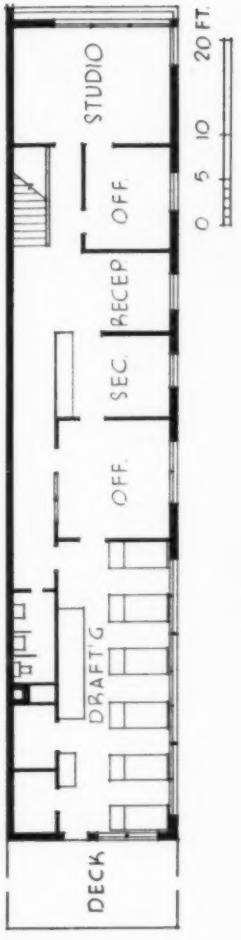


Walter Wagner's brick office building in Fresno, Calif. (above), has two rental offices on lower floor, upper floor for his own offices (plan at right). Each office has separate entrance. Wagner has placed secretary's desk to control all second-floor circulation

Harold Ekman, Phoenix, Ariz., has developed a three-office plan (below) somewhat similar to above, but second-floor entry has outside front stairs. Exterior is blue painted brick, redwood, white trim; doors are birch. Larger lot permits off-street parking, side windows

Stuart A. Weiner



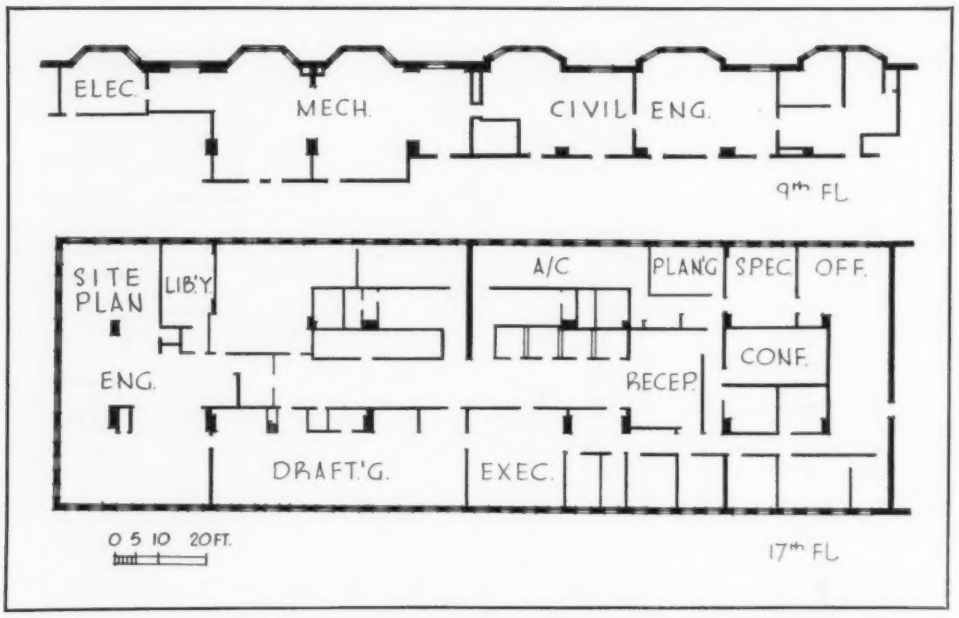


Bill Hedrich, Hedrich-Blessing

Philip Duke West's office occupies a very narrow lot in the business section of Hinsdale, Ill., a Chicago suburb. Lower floor is rented to a store; upper is shared by offices of West and those of Mrs. West, a decorator. Studio at front serves as conference room for both (plan at left)

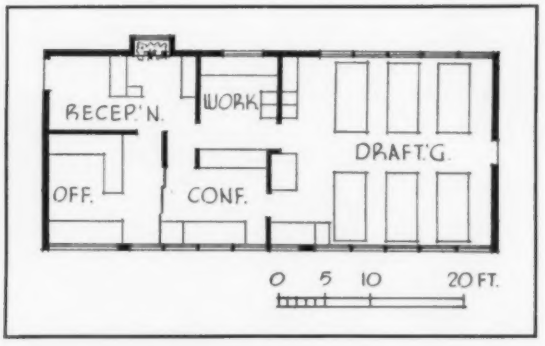
Gabriel Benzur

League, Warren & Riley, Macon, Ga., have developed a one-story plan with a rental office near the street, and their own offices to the rear, giving privacy to each. All major rooms in the architects' office open on a pleasant court. Central hall also serves as plan and storage room, office doubles for conferences

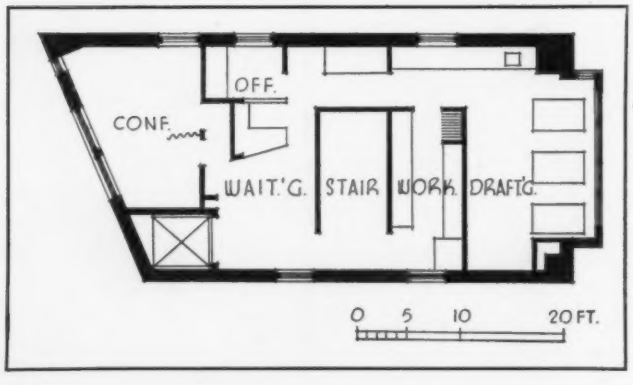


Pace Associates (above) are in an office building in downtown Chicago, have expanded through the years from a few small offices to large suites on ninth and 17th floors, and also have space for duplicating machines on 18th floor. Office layout is sub-divided into various architectural and engineering activities

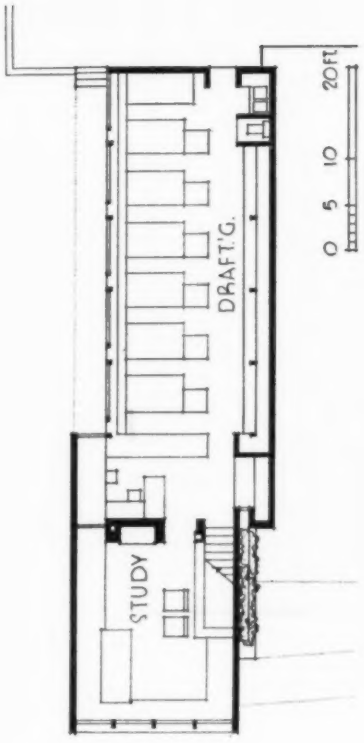
Leinweber, Yamasaki & Hellmuth (above) occupy the third floor of an office building in Detroit, Mich. The entire floor was cleared and partitions of wall board and plywood, stained black or yellow, were placed as desired. Drafting tables have plan counters at side, tack boards between



Vladimir Ossipoff has his offices (above) in a penthouse atop an office building in Honolulu, Hawaii. Conference and work rooms are placed to give privacy to drafting rooms. Sliding doors between office and conference room permit joining of the two areas for large meetings and discussions

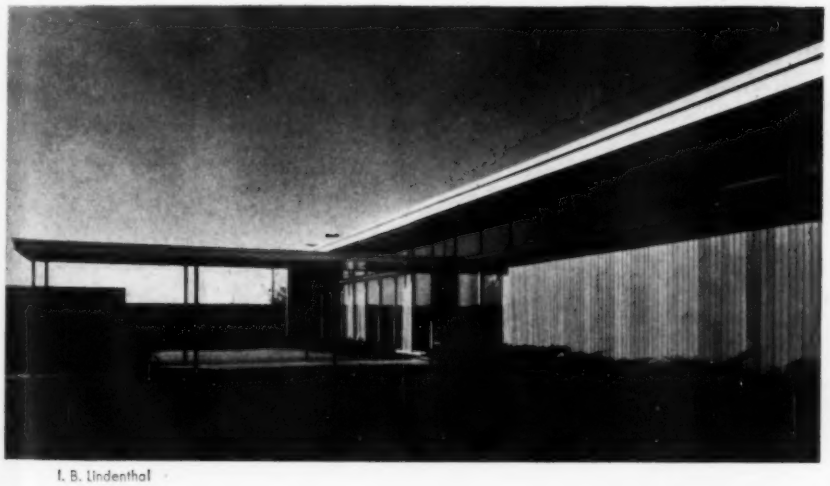


Aeck Associates (above) have offices on the seventh floor of an office building in downtown Atlanta, Ga. Compact arrangement accommodates medium size staff. Conference room can be divided into two offices as needed



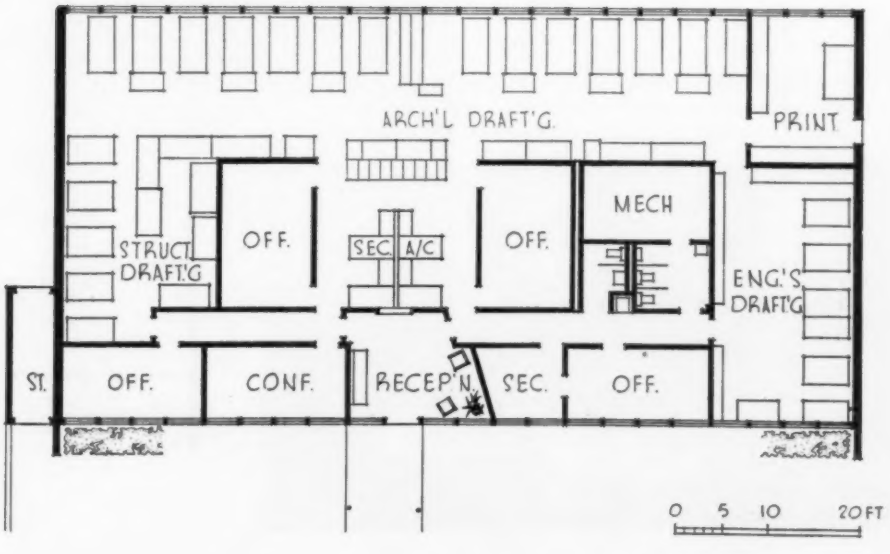
Bill Hedrich, Hedrich-Blessing

The offices of Schweikher and Elting are located in a wing of Paul Schweikher's country home in Roselle, Ill. Exterior is redwood. Lower floor houses entrance and quarters for an office caretaker

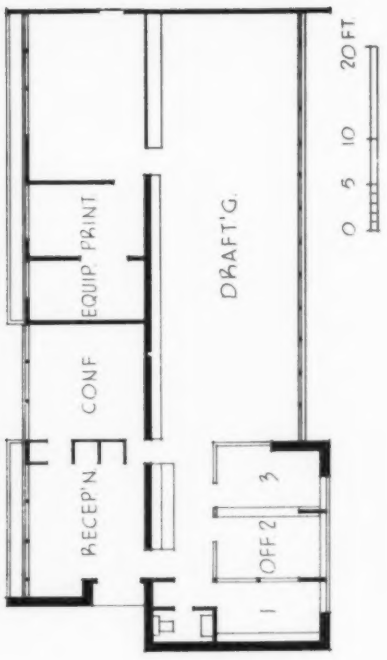


I. B. Lindenthal

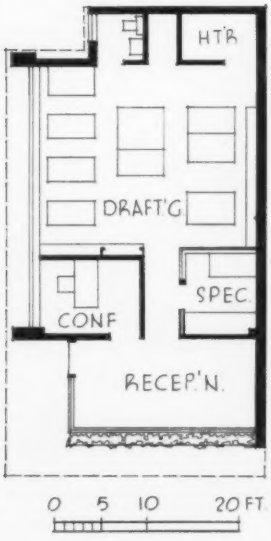
Associated Architects (Wirtz, Calhoun and Tungate) have own building in Houston, Tex. Building has wood frame, exterior of redwood, brick, asbestos siding; roof is built-up, gravel surfaced. Off-street parking is at rear



I. B. Linderthal



The office building of Wilson, Morris & Crane in Houston, Tex. (above), has a solid brick front on the street side for privacy, windows along sides. Shed roof slopes up over drafting room for added light. Entrance door is clear glass

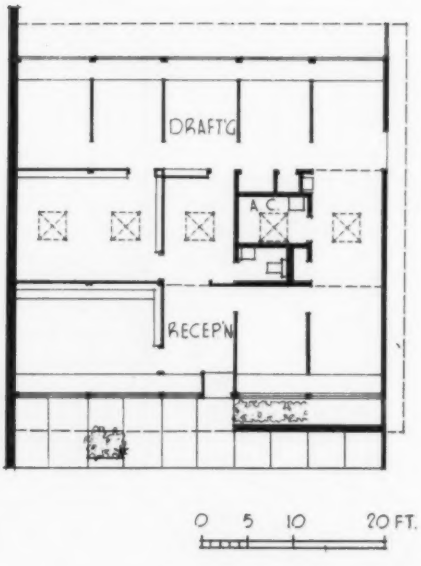


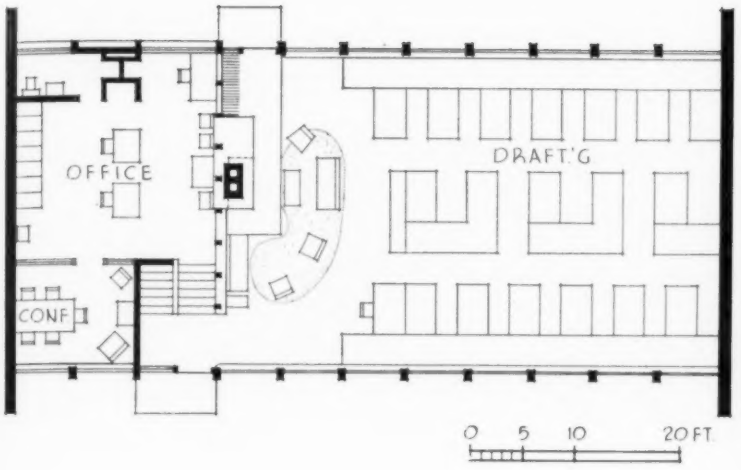
Dewey G. Mears

Adams & Adams, in Dallas, Tex., have a small compact building (above). Curtains draw across glass front for privacy; brick fin wall shields conference and drafting rooms from street

Biggs, Weir & Chandler's building in Jackson, Miss. (below), has white painted siding, bright color accents. Plastic skylights are over central rooms. Drafting tables are separated by tack-board screens in bright primary colors

Joseph W. Molitor

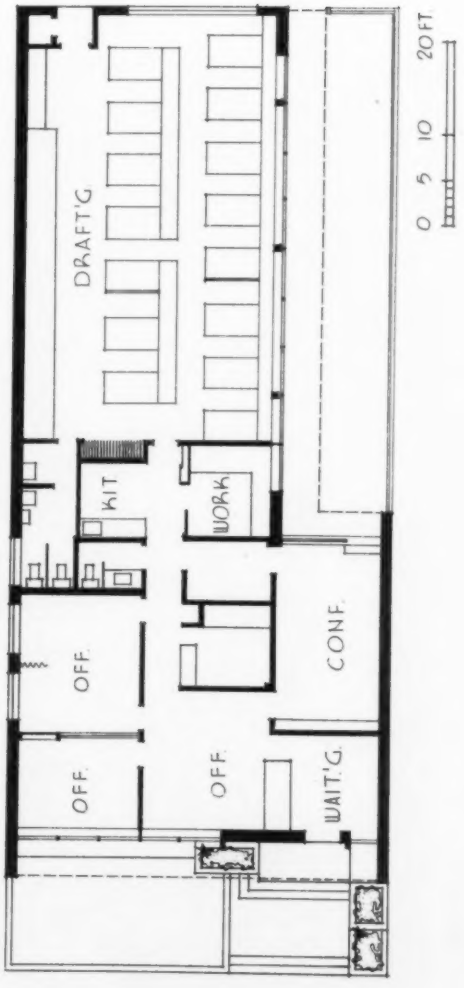




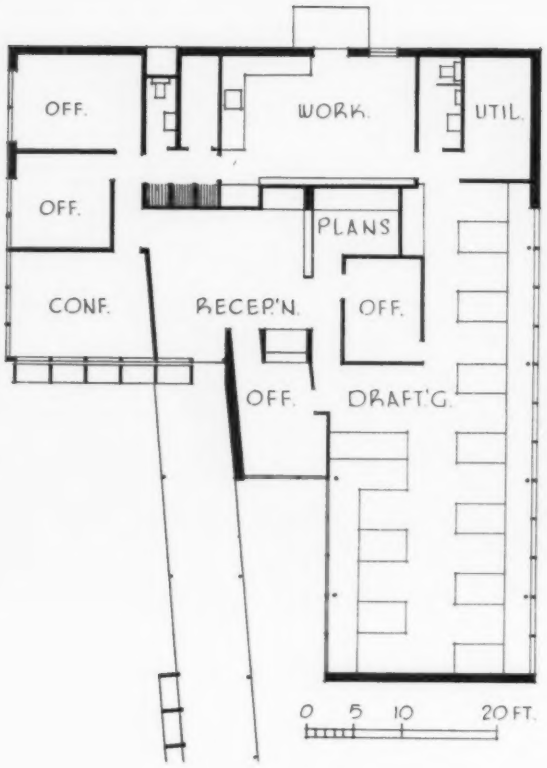
Richard Shirk

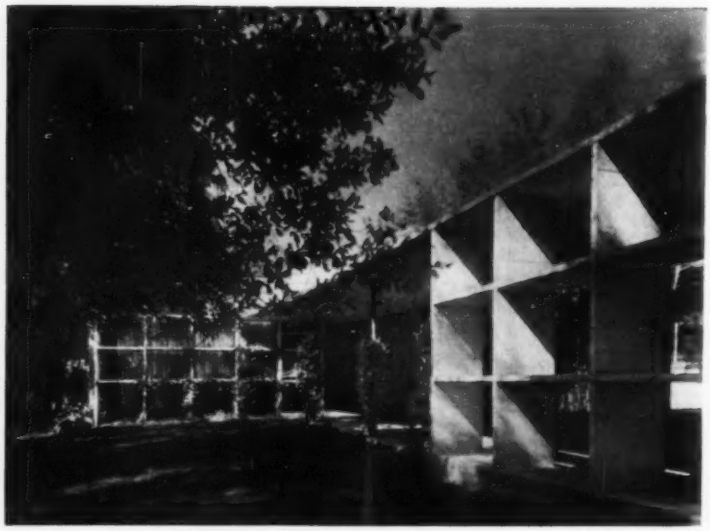
Jahr-Anderson Associates, Inc., have developed a three-level timber structure for their Dearborn, Mich., offices to segregate the various areas, and to permit a high drafting room ceiling. Level below office houses printing machine, storage and private work and design areas. Drafting room has a lounge area for coffee and informal group meetings, opens directly off entrance

H. O. Wiseman



Neild-Somdal-Associates' building is located in a semi-suburban area of Shreveport, La. It was planned around light court in case adjoining lots are built-up. Drafting room can be expanded on land to rear; the structure is also designed for future addition of second floor. Bearing side walls are brick with 2-in. cavity; columns are steel, roof is concrete slab over steel bar joists





I. B. Lindenthal

Staub, Rather and Howze have developed a building with a strong residential character for their offices in Houston, Tex. Exterior is soft pink brick. Concrete screens and planting help reduce glare from sun, give privacy to offices, drafting room

I. B. Lindenthal

TRENDS IN HEATING AND AIR CONDITIONING

*By S. Konzo**

Professor of Mechanical Engineering

University of Illinois

Equipment will be more compact; automatic controls will make operation more flexible and efficient; ducts will be integral with the structure — these are a few of the developments contained in this forecast

THE CONTINUING ACCELERATED developments in heating, ventilating and air conditioning can be attributed to the following five sources:

1. A demand for compactness of equipment.
2. A demand for push-button and automatic control of mechanical equipment.
3. The advent of new materials of building construction.
4. The introduction of new construction techniques.
5. The demand for higher standards of acceptance.

The source of these developments can be traced to architects, builders, building owners and equipment manufacturers. Regardless of the source, however, the fact remains that architects and mechanical engineers must keep pace with the trends. Some of the broader aspects will be discussed here.

1. Trend Towards Compactness of Equipment

Numerous examples can be cited in a wide variety of heating and cooling applications showing the trend towards compactness of equipment:

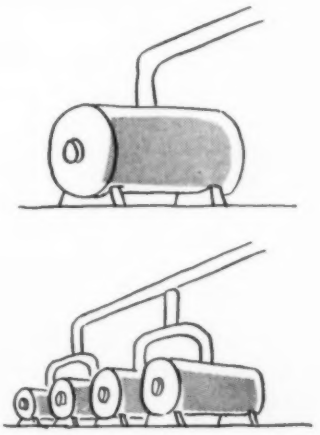
a. Extended surfaces, or fins, are used to promote greater heat transfer; higher velocities of the circulating medium are becoming more common; and higher speeds of equipment are being utilized.
b. In aircraft heaters, the heat release per cu ft of furnace volume is many times greater than that in use for industrial furnaces.
c. High velocity air flow at moderately high pressures have been developed for commercial buildings. Velocities as high as 4000 fpm have been used for air conditioning service.
d. High-speed axial flow fans, as well as high-speed centrifugal fans, are on the market.
e. Smaller boilers with high circulation rates are being developed.
f. High temperature hot-water systems, with temperatures in excess of 230F, are being tried.

The trend towards compact equipment will undoubtedly be accentuated as a result of engineering research, competition and space demands. One does not have to speculate too far ahead to imagine the potentialities of high-velocity, high-pressure ducts; of high-speed refrigeration compressors; of high-intensity combustion processes; and low-temperature cooling air for commercial, industrial and residential applications.

2. Trend Towards Push-Button and Automatic Controls

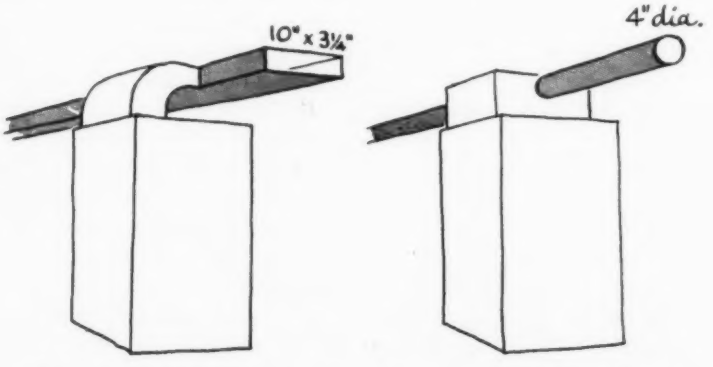
The single largest contribution during the past two decades has been the practically universal adoption of automatic control equipment. These controls serve not only to regulate temperatures, pressures, drafts, flow rates and dew-point temperatures, but also serve the more important function of providing safety limits for operation. We can expect not only refinements in the equipment, but also the more extensive use of the following items:

a. Zone control of large blocks of rooms and spaces where a single large unit is used for the entire building.



A number of small-sized heating or cooling units (boilers, refrigeration compressors, etc.) tied together and turned on or off automatically as the load varies may be more efficient in some cases than one large unit

b. Simultaneously, we can expect the use of individual units, each serving a small zone.
c. Also we can expect the ultimate refinement to consist of individual room temperature control for both heating and cooling.
d. Factory installed control equipment with control settings fixed at the factory, and with a minimum of electrical connections to be made at the site of installation.
e. Step control of multiple units to handle varying weather and load demands, such as the use of two or three refrigeration compressors for a given building.
f. Modulating control of a large capacity unit to handle the demands



High-velocity, high-temperature forced warm air systems for residences and small buildings distribute the heat through 4-in. circular ducts, taking up less space than conventional forced warm air ducts and demonstrating the use of higher velocities to make equipment more compact

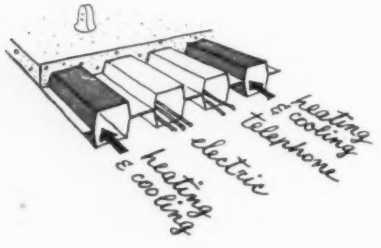
* *Based on a paper given at the U. of Illinois Short Course, "Planning for Heating and Air Conditioning of Small Buildings," Oct. 1952.*

of fractional loading. In this connection much remains to be done in obtaining a close control of air-fuel ratios for burners when the fuel input is varied over a wide range.

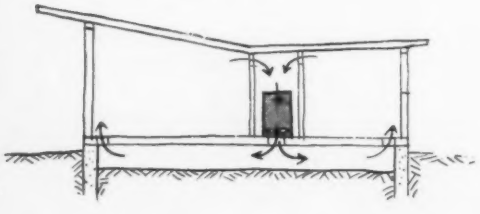
3. Advent of New Materials for Building Construction

A seemingly simple change such as the replacement of metal pipes by a new type of plastic tubing has ramifications that tax the ingenuity of the mechanical engineer. Even a casual inspection of trade literature reveals that resourcefulness and imagination will be needed to handle such items as:

a. The proper insulation and vapor treatment of solid and hollow masonry walls.
b. The proper insulation of metal walls composed of two skins of metal and with metal ties connecting the two skins.
c. The proper sealing of the joints between large sections of wall panels, which have been prefabricated.
d. The possible use of building materials to serve a dual purpose, such as hollow tile and steel channel spaces for air ducts.
e. The proper application of double-glazed, fixed windows, ventilating louvers for use with fixed glass areas, roof overhangs for solar orientation and movable sun shades for window openings.



Parts of structures, themselves, are being designed to double as heating and air conditioning ducts. Above: cellular floor carries wiring as well as air for heating and cooling. Below: floors are kept warm in houses built over crawl spaces by dumping heated air into them



f. The proper installation of L-P gas tanks.
g. The electrical wiring for installations using electrical energy as the heating source.

4. Impact of New Construction Techniques

When an architect develops a new building form, or a builder tries a new construction technique, the mechanical engineer will be vitally interested. Consider the impact of some of the following construction practices:

a. If movable partitions are to be used in order to provide flexibility in internal arrangement, the type of heating unit and the location of the heat source must be carefully considered.
b. If prefabricated panels of wall, floor and ceiling are to be used, conventional locations of piping, ductwork and wiring may offer difficulties.
c. Slab floors placed on the ground introduced a problem of cold floor surfaces near the exposed perimeter.
d. The use of tightly enclosed crawl spaces introduced problems of cold floor surfaces as well as high moisture release from the damp soil.
e. Unventilated flat deck roofs offer a serious problem of panel heating effect in the summer.
f. The use of large glass exposures, some of it unwisely, has brought about problems of solar loads.
g. Conversely, in the windowless structure, the ventilation problem is paramount.
h. Group housing or large-scale planned communities may make feasible the use of a single central station for heating and the use of heat distribution lines to individual buildings.
i. Conversely, the use of a large number of standard, small units strategically located throughout a building may reduce the amount of piping, wiring and ductwork.

5. Acceptance of Higher Performance Standards

In the minds of the research engineer the standards of acceptance of heating equipment have been raised during the past two decades. Nevertheless, as far as most building specifications are concerned, the standard is loosely stated that the "system shall be capable of maintaining a temperature of 70F." The question arises as to where this temperature is to be measured; when this temperature is to be measured; how much tolerance is to be permitted; how much variation is to be permitted from one part of the building to the next; and whether some of the other factors affecting comfort are to be ignored.

Higher standards bring about changes in equipment and design and raise some problems, as illustrated by the following partial list:

a. The demand for attractive appearance has resulted in the disappearance of the bulky column-type radiators, convectors, baseboard radiators and panel systems.
b. The demand for quiet operation imposes a problem to manufacturers of fans, oil burners, stokers, steam piping and control equipment.
c. The demand for adequate ventilation has been accentuated by more tightly constructed buildings. Adequate ventilation requires a larger fuel consumption. Alternative means are being developed, such as the use of odor-absorbing chemicals, air washing, odor-masking chemicals and electrostatic precipitation.
d. The demand for cleaner outdoor air has resulted in numerous attempts to control atmospheric pollution. The small building has not been blameless as a source of smoke and fumes.
e. The demand for higher safety standards has come about to a large extent from industry itself. The American Gas Association and the National Board of Fire Underwriters Laboratory are two examples of industry-controlled testing and approval agencies.
f. The demand for summer cooling has increased as less costly and more compact equipment has been made available. But at present the standards of acceptance of summer air conditioning systems are relatively low. It can be expected that as summer air conditioning becomes more common that demands will arise for closer control of humidity, elimination of odors, elimination of drafts and reduction in initial and operating costs.

The conclusion is inescapable that specialization will continue and that progress will be accentuated. The working team of the future, therefore, must include the architect as the overall planner and coordinator of the building, and the mechanical engineer as one of the specialists dealing with the functional aspects of the building.

TILT-UP WALLS HAVE OWN COLUMNS, BEAMS

Concrete framing is cast integral with wall panels

St. Louis Produce Market, St. Louis, Missouri

L. Roy Bowen & Associates, Architects and Engineers
William O'Neil, Structural Engineer for Wall Panels
Robinson Construction Co., Contractor

EACH of the two 114 by 1225 ft buildings comprising the new St. Louis Produce Market contains 49 individual units, 25 ft wide, built repetitively of tilt-up concrete panels. After the panels are in place they are bridged by precast concrete roof joists. The necessity for maximum sanitation in the handling of produce was one of the primary factors in the selection of concrete, and economy was the major factor in the choice of tilt-up construction.

Practically all of the perishable fruits and vegetables coming into the St. Louis area will be received and serviced by this market starting early this month.

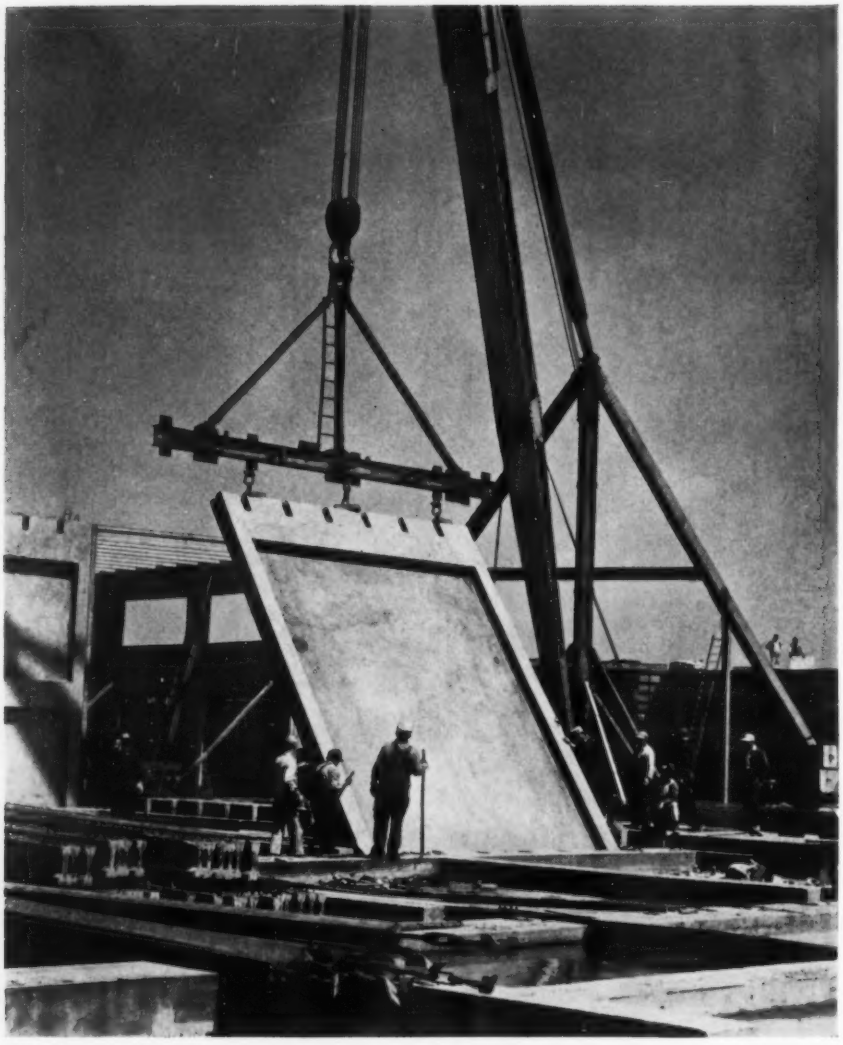
Two surveys were made in the last decade to determine the need for such a market. Most recent was one by the Department of Agriculture in 1949, which was used as a basis for planning the two structures. The facilities were financed by a corporation formed from a group of 59 produce distributors. Of the 98 units, 93 have been taken by these distributors, so that some of them will occupy more than one unit. Of the remaining five units, three will be used for restaurants, and the remaining two as office space for produce brokers.

The buildings will be served directly by the tracks of the Wabash Railroad which were relocated for this purpose.

The units were made 25 ft wide so that three vehicles could be parked in front of each unit. This is where business is done at a produce market, and is the reason for the concourse running the length of the building in front of the units. Because produce people have always done business at curb height, they insisted that the doors opening from the concourse onto the trucking area be of curb rather than truck height. Doors are at railroad car height at the rear of buildings.

A mezzanine floor for office space runs the entire length of the rear 20 ft of both buildings. Each unit has its own toilet facilities both up and down in this section. The building was designed so that a second floor can be added wherever desired by resting joists on the beams cast at mid-height on the interior panels.

Two 1225-ft buildings provide a total of 98 individual units for some 50 tenants. Long side of building in foreground is for railroad service



One of the interior panels with integral beam and columns being raised to position by a 35-ton derrick. The frame is 11½ in. thick and the center of the panel is 4 in.

Wall Panels

The tilt-up walls are actually a part of the structural frame — columns and beams are cast integral with the panels — in contrast to the use of tilt-up panels merely as enclosure which requires separate framing. Panels for the market buildings are secured to each other at their juncture by welding steel bars to steel anchors cast in the panels at each end of the top edges. Precast concrete roof joists connect one panel to another; steel bars in the tops of the joists are welded to anchors in the top edges of the panels.

Both exterior walls and interior partitions were cast on the floor and tilted up into position. The small casting floor necessitated casting the panels in layers, so a bond-breaking agent was used to keep them from sticking together and to the floor.

The size and thickness of wall panels vary both on interior and exterior. Panel heights are generally 22 ft 6 in., widths from 20 to 25 ft.

An individual unit of the two buildings consists of a front exterior panel, a panel between the concourse and store space, a rear exterior panel and three interior panels on each side. Some of these interior panels have beams at mid-height, some have cantilevers, some have neither, some both.

Typical wall panels are shown in the

Left: concrete floor makes a casting bed for panels, poured atop one another. Above: structural frame is braced while transported

sketches directly at right. No. 1 is a rear exterior wall panel opening to the railroad tracks from which produce can be moved directly into the unit.

No. 2 is an interior panel which intersects the exterior rear panels and contains a cantilever which supports the roof protecting the railway unloading area. It has integrally cast beams at mid-height on which the mezzanine structure rests.

No. 3 is a typical interior panel constructed similarly to No. 3 for mezzanine floor installation.

No. 4 flanks the inside of the concourse which is open through the entire length of the building. These panels separate the concourse from the interior of the unit itself.

No. 5 is a front exterior wall panel facing the trucking area and containing two 10 by 10 ft doors for servicing trucks picking up produce. The heaviest wall panel weighs about 34 tons.

The Construction Process

Briefly, the steps in construction were as follows:

a. Fill and plumbing
b. Cast-in-place concrete piles to rock
c. Cast-in-place foundations
d. Construction of 5-in. concrete floors
e. Preparation of forms for panels and placement of steel and casements in forms
f. Placing of concrete for panels and curing of panels (usually 14 days)
g. Erection of panels and construction of roof

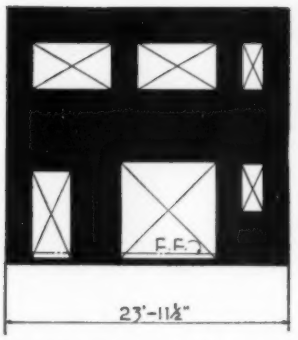
Because winter weather, track relocation and other problems delayed construction on the first building, statistics on the second building are more significant.

On this *second* building there were 349 wall panels. Concrete was placed for the first panels on Feb. 28, 1952, and the final panel was placed on June 2, 1952. The first panel was erected April 16 and the final one on July 25. There were 13 panels erected on July 15, the record high for this job. Average was about six per day. There were no panels dropped, only four suffered minor cracks which were repaired, and none were lost. The 349 panels in the second building were cast in 60 working days.

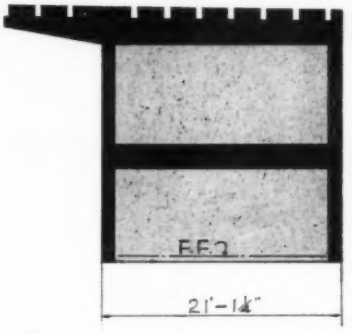
Foundation

The entire building rests on cast-in-place concrete caissons which were carried to rock. Wall panels were set on 3-ft diameter caps which were merely the widened tops of the 18-in. caissons. The retaining wall at the "trucking side" of the building was cast-in-place concrete.

The 5-in. concrete floors were placed in alternate lanes across the building,

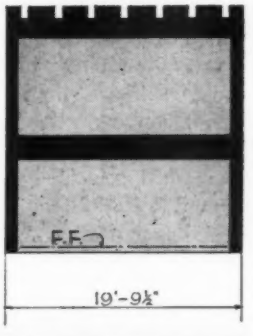


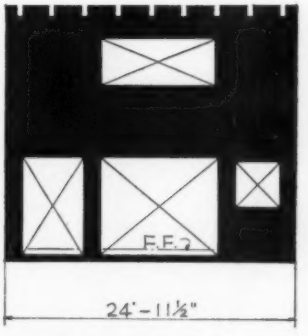
No. 1. Rear wall, facing railroad, 10 in. thick. Produce unloaded here



No. 2. Interior wall, railroad side, frame 11½ in. thick, wall 4 in. Cantilever for roof at unloading dock. Beam at mid-height for mezzanine floor joists. Set perpendicular to panel No. 1

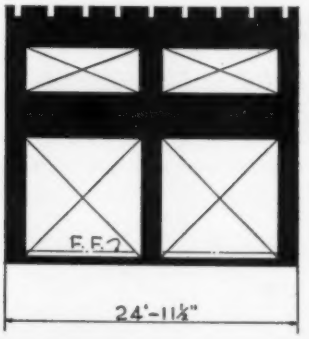
No. 3. Interior wall, frame 11½ in. thick, wall 4 in. Beam at mid-height for future second-floor construction



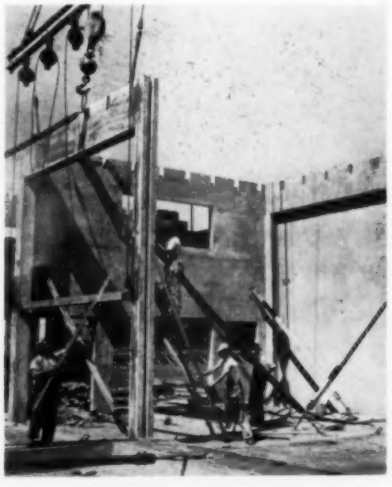


No. 4. Concourse wall, truck side, 10 in. thick

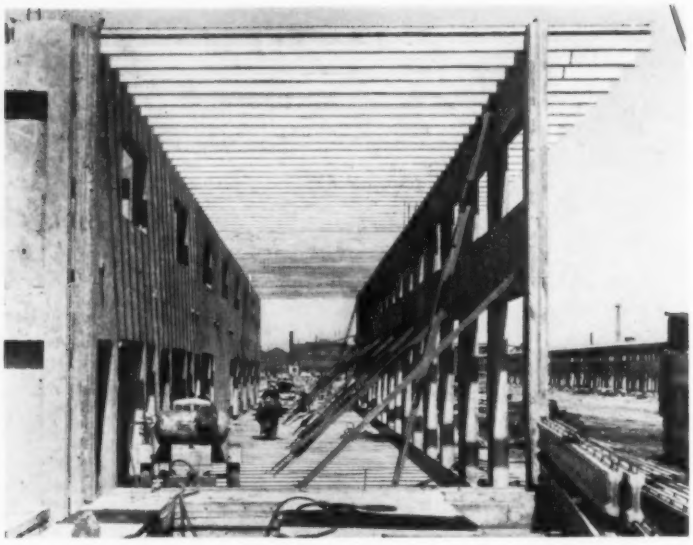
No. 5. Front wall, truck side, 10 in. thick. Separates concourse from the outside. 10-ft doors for loading produce



Interior panel being jacked into place. Note beam at mid-height in background panel to hold joists for a second floor



Temporary bracing steadies panels during construction. When all panels are up, concrete joists will be set in notches



Looking down through the concourse area on the truck side. Panels are connected by precast joists

the lane width being the c-c distance between cross panels (generally 25 ft 0 in.). Reinforcing was of wire mesh only.

There were two primary reasons for building the floor in this manner. First of all, it saved on formwork, as the adjacent edges of the completed floor sections could be used as forms for the section placed in between them. Secondly, by using this type of construction it was not necessary to wait until forms could be stripped from a completed lane before starting work on another one. Thus construction was speeded up. The 25-ft width coincided with the width of the units, and the interior panels are in place immediately above the floor joints.

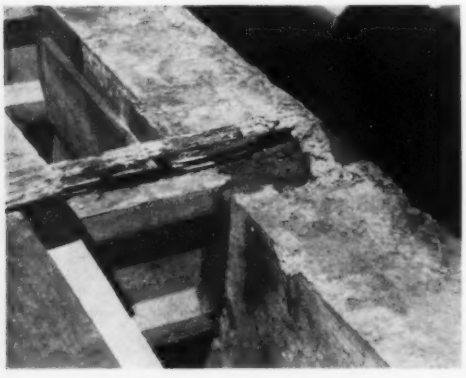
Forms

In most cases, edge forms for panels were of 2-in. lumber. Where sides of panels were cast adjacent to each other, a ½-in. plywood division strip was used as an edge form. Any yielding of this thin edge form caused no difficulty, as panels cast adjacent were erected the same way.

Roof Construction

The roof construction consists of precast concrete joists at 34 in. c-c, supporting cement asbestos board on which is placed a 3-in. fill of vermiculite concrete. The notch in which the joist rests is grouted later to completely fill the void between joist and panel. More than 23 miles of precast concrete joists were used in the roofs and mezzanine floors of the two buildings.

The top side of the asbestos-cement boards is sprayed with a bituminous waterproofing. It was thought that by waterproofing the asbestos-cement, deflections of the board would be less than if not waterproofed. Electrical conduit and conduit boxes were placed on the asbestos-cement board before placing roof fill. Asbestos-cement boards were secured in position by using a small amount of mortar between the boards and the top exposed bars of the concrete joists.



Above: exposed steel bars of concrete joists are welded to plates in wall panels. These bars, also welded to joist stirrups, project up into concrete roof slab to tie slab to frame. Right: asbestos cement sheets act as forms for vermiculite concrete roof fill. All conduit is in roof slab

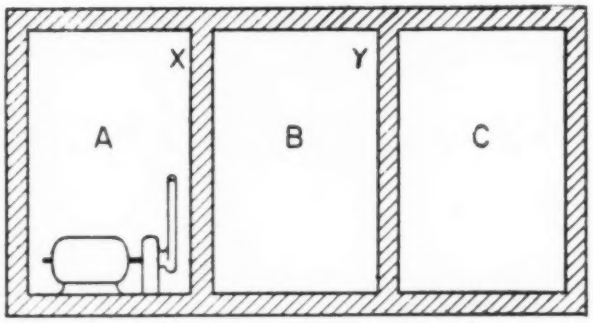
REDUCING THE NOISE OF INDUSTRIAL MACHINES

*By Paul H. Geiger and Richard N. Hamme**

A discussion of how to cut noise with: (1) resilient machine mountings, (2) vibration dampening materials, (3) acoustical housings and barriers, (4) sound absorbing materials

ANY INDUSTRIAL MACHINE is always a source of mechanical vibrations, and the vibrations usually result in undesired noise.

There are three basic ways of attacking this annoyance problem aside from just getting used to the noise or plugging your ears: (1) You can try to reduce the amplitude of the vibration itself at some stage in its travels, either by minimizing the forces in the machine or by dissipating its energy harmlessly when it tries to get away. (2) Better yet, you can try to isolate the disturbance by putting obstacles in its path from the machine to the ear. (3) Or, the character of the disturbance can be modified so it will be less objectionable.



In the text, three hypothetical rooms demonstrate some principles of noise reduction. Room A contains an unusually noisy machine and room C is needed for office space. Text and figure will show how cavity walls improve noise reduction

Noise Reduction at the Source

The logical place to attack the noise seems to be at the place where it originates, at the source, in the machine itself. This may not be the most fruitful approach in the long run, but a long hard look at the machine in the hope of discovering the actual mechanical causes of the noise is usually justified, just for familiarity with the problem if for no other reason. The ideal approach is a complete noise analysis because the noise of any practical machine is bound to be complex, a non-musical combination of many individual tones sometimes well confused with unpitched noise. Little is accomplished by way of overall loudness reduction until the loudest single component is reduced.

Resilient Mountings

Inasmuch as any machine seems bound to produce some mechanical vibration, ways have to be found of keeping this vibrational energy from being radiated into the air as noise. The mechanism of sound radiation already suggests the solution. In order that a vibrating object be an efficient radiator of sound, its dimensions must be of the same order of magnitude or greater than the wave length of that sound in air. For example, an object vibrating at 100 cycles per second will not radiate efficiently unless it has an area of several sq ft. Hence, in order to prevent the radiation of a 100-cps vibration, it is only necessary to prevent the vibration from reaching any surface of large area. This kind of vibration isolation can be accomplished by the use of suitably designed resilient mountings. Considerable noise reductions can be obtained both by using resilient mounts inside the machine to isolate vibrations from large housing and coverplates and by using them under the entire machine to isolate it from the floor and walls.

The design of resilient mounts is very simple in most installations. Using either steel springs or any resilient rubberlike material, the only design criterion is the stiffness of the mount, or, what amounts to the same thing, the natural frequency of the machine on its mounts. The natural frequency can be determined easily by computing or determining experimentally how far the spring or rubber mount is deflected by the weight of the machine, the so-called static deflection. The mounts must be soft enough so that their natural frequency will lie well below the lowest-frequency vibration which is generated by the machine, otherwise the vibration may actually be amplified. In mounting rotating machinery, this means that the natural frequency of the mounts must be well below the speed of rotation.

Certain simple precautions must be taken in the installation of resilient mountings. You must not allow them to be "short circuited" by rigid connections to the machine. The isolation is only obtained by virtue of the free movement of the machine on its mounts, so rigid fuel pipes, exhaust lines or electrical conduits will defeat the purpose. Furthermore, you must have either a rigid or highly damped foundation structure to support the mounted machine, otherwise foundation resonances will be excited by the little vibrational energy that does leak through the mounts.

Vibration Damping Materials

Any mechanical system has an inherent tendency to vibrate more easily at some frequencies than it does at others. These frequencies are called the natural frequencies of the system. Such little energy is required to excite and maintain resonant vibrations that the vibrational forces which leak through well-designed resilient mounts are quite capable of inducing foundation resonances of large amplitude.

Whenever a machine's speed is not constant or when parts are subjected to impact, vibration at the natural frequencies should be damped out by the proper use of vibration damping materials. These materials are only effective in suppressing vibration at or near the natural frequencies where they are capable of draining off energy at a greater rate than it is being supplied. The vibration damping materials function by being flexed and deformed by

* *Research Physicists, Engineering Research Institute, U. of Michigan. Based on a paper given at the third annual National Noise Abatement Symposium at Technology Center, Chicago, Oct. 10, 1952*

the vibrating surface to which they are attached, so that mechanical energy is dissipated by internal and/or rubbing friction during flexure.

Damping materials are available in several forms. The so-called mastic "deadeners," which are applied with a spray gun, have been developed primarily for the automobile industry. The mastic deadeners are all very similar in appearance but their effectiveness varies over a great range from one product to another.

Various types of asphalted indented felt are available for vibration damping use either just laid in sheets on the vibrating surface or cemented to it. Their effectiveness is very much improved if the indented felt is backed with a sheet of metal. The inertia of this sheet constrains one surface of the treatment and ensures maximum fiber flexure when the opposite side moves in contact with the vibrating surface. Fibrous blanket materials, which are relatively poor in themselves as vibration damping materials despite their effectiveness as airborne sound absorbers, can also be rendered quite effective in vibration damping service by backing the blanket with cardboard or heavy paper.

Acoustical Housings

It may still be that further noise reduction is desirable. The possibility still remains of fencing off the airborne sound radiated by the machine, confining the noise to an area where it will not disburb anyone. Whether this airborne sound barrier is a small sheet-metal housing or an entirely separate room, the acoustical principles are the same.

Care must be taken that the partition or housing is properly isolated from the machine by resilient mounts so that the partition acts like a barrier rather than a radiator. Furthermore, if the housing is made of sheet metal, it may be necessary to use a vibration damping treatment to prevent exciting the housing resonances.

If very high attenuations are required as in the case of very noisy machinery with office space nearby, the problem might seem very difficult since the attenuation of a single homogeneous wall depends only on its weight per unit area. For example, weight law requires the use of a single partition weighing more than 400 lb per sq ft to obtain 60 db attenuation. But luckily, an improvement upon the single-wall construction is available when needed.

Consider the three rooms A, B and C in the sketch. Assume that room A contains an unusually noisy machine and room C is needed for office space. If partition X and partition Y are both homogeneous single walls weighing 3.5 lb per sq ft, the sound level in room B will be 30 db down from that in room A according to weight law, and the sound level in room C will be 30 db down from that in room B. This is true provided, of course, there are no sources of noise other than the machine in room A and provided there are no possible noise paths between rooms A and C other than through both partitions.

It appears then that 60 db attenuation has been obtained between rooms A and C with the use of only 7 lb per sq ft of material in contrast to the 400 lb per sq ft that would be required in a single-wall structure. Now, if the size of room B is decreased by moving the two partitions together, it would seem that the 60 db attenuation would be maintained until the two walls came into contact.

Actually, the picture is greatly oversimplified, but it is not too far from the truth provided there are no leakage paths around the double partition, and provided the air space between the partitions is wide enough to prevent close coupling by the enclosed air. But to obtain maximum benefit from the double-wall structure, the two walls have to be mechanically isolated from one another as much as possible. Each connection between them reduces the attenuation, even if the connection is only through a high-quality sound-absorbing material. Lining the air space between the walls with sound-absorbing material will improve the attenuation somewhat, but filling the air space entirely, even with a very soft material, will reduce the attenuation more than the added absorption increases it.

Sound-Absorbing Materials

The soft and porous sound-absorbing materials do, however, perform an important function in obtaining the attenuations predicted by weight law for the single-wall structures. Referring again to the sketch, suppose there were absolutely no sound absorption in room A. Now, since it has been assumed that there is no path of escape for sound energy except through partition X and since no sound energy is being absorbed in room A, the sound level in room A will build up; it will build up until the energy escaping through the partition is just equal to that being produced by the machine. In other words, the noise arriving in room B is the same as that which would arrive there if partition X were not present at all. Of course, this is a wildly hypothetical example with respect to architectural acoustics because of the sound absorption that is always present, but this situation is closely approached in the case of a machine operating in a sheet-metal housing where absorption is at a minimum. In this case, you have to line the housing with sound-absorbing material in order to get the required noise reduction.

Sound-absorbing materials also offer a solution to the problem of furnishing a machine with the necessary air for cooling and combustion when it is completely enclosed in a noise-attenuating housing. Of course, holes through the housing will ruin its effectiveness, but ducts can be fitted through the walls which can furnish the necessary air flow without causing a serious sound leak provided the ducts are lined with sound-absorbing materials. Long ducts with bends or baffles are by far the best, because in this way the noise can be repeatedly directed toward the sound-absorbing material without slowing down air flow too much.

Acoustical Materials

We have now considered several distinct uses of the three basic acoustical materials: resilient mounting materials, vibration damping materials and sound-absorbing materials. In general, a material which is good for one purpose is rather poor for the other two. For example, the various types of rubber are excellent for resilient mounting purposes, but rubber is a relatively poor material for vibration damping and for airborne sound absorption. In the same way, sound-absorbing materials are of very little use in preventing sound transmission, and they require special treatment to be useful for vibration damping.

Sometimes you can fabricate a composite structure which will serve two acoustical purposes well enough. Generally, however, the functions of the various acoustical materials must be regarded as distinct, and our moral here is simply that the function of the material has to be borne in mind when it is being selected, and then it has to be used in the right place.

PRODUCTS for Better Building

Mechanical Parking System For Installation in Buildings

Alkro Integral Parking is a new automatic parking system designed to be incorporated as an integral part of office buildings and other structures in the same way that passenger elevators have become an integral part of such buildings. An installation of this sort is economically practicable, according to the manufacturer, since the cost of construction of the system is less than half the cost for construction of office space of the same cubic content.

The system consists basically of a standard automatic elevator, a conveyor mounted on the elevator platform and automobile stalls in the form of shelves on each side of the elevator shaft. The conveyor and the shelves have horizontal transverse members which intermesh without contact and permit cars to be transferred as shown in the illustrations at right.

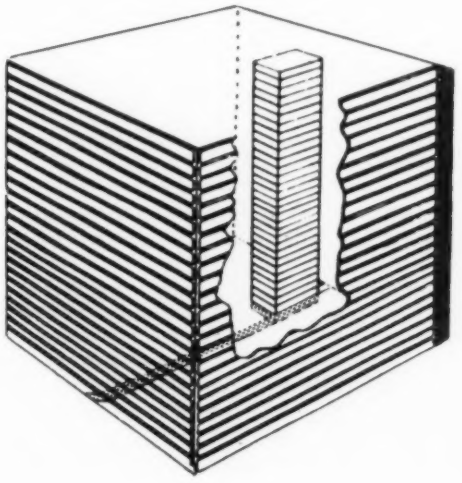
An elevator and conveyor can serve two vertical rows of shelves, one on each side of the shaft. The floors are spaced 8 ft, 6 in. apart and as many as 50 floors can be included in an installation, serving a total of 100 automobiles. The total ground area occupied by the elevator shaft and stalls on either side is 24 by 25 ft, or 600 sq ft. If this is divided by the number of cars accommodated in an installation, the proportional amount of ground space required for each automobile may be found, and an index to proportional land costs and income can be deduced accordingly. This amount of ground area is only 6 sq ft in a 100 car installation. As many of these 100-car units as desired may be installed in a building, and may be grouped in a variety of arrangements either end-to-end or side-by-side.

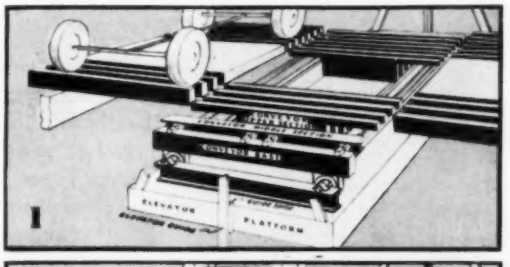
Operation of the system is described as very fast. In a single round trip one automobile can be parked and another withdrawn automatically. The system is also said to eliminate damage, since no attendant need ever enter an automobile. A 600-stall garage reportedly can be operated efficiently with two attendants and one cashier, and at slack hours one person could operate the entire garage.

In a full scale test installation built in Houston, over 220,000 automobiles reportedly have been handled without mishap or noticeable wear to either automobiles or the conveyor. Cornelius Kroll & Co., San Jacinto Bldg., Houston, Tex.

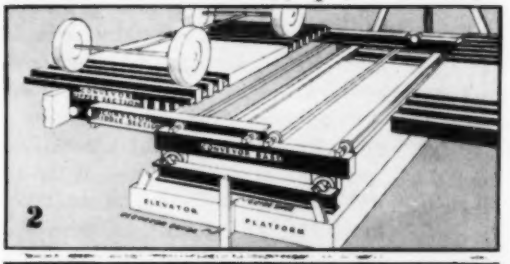
(*Continued on page 188*)

Right: sketch indicates how parking system can be installed within a typical office block. Note access passage. As many units as desired can be placed within a building

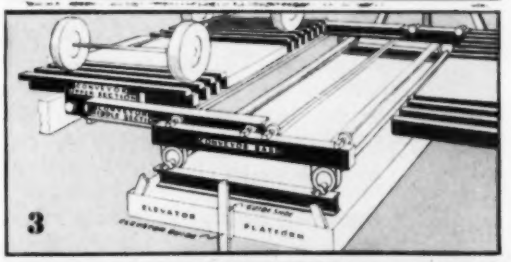




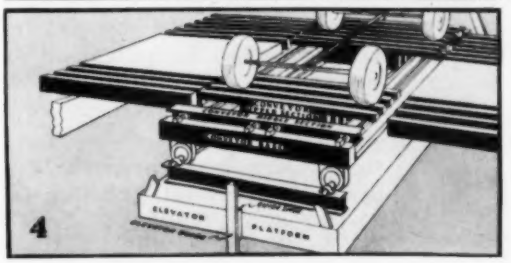
These are steps in withdrawing a car from its parking shelf: 1. Elevator on which conveyor is mounted is stopped beside shelf . . .



2. Conveyor moves out so that transverse members of upper section intermesh with shelf beams . . .

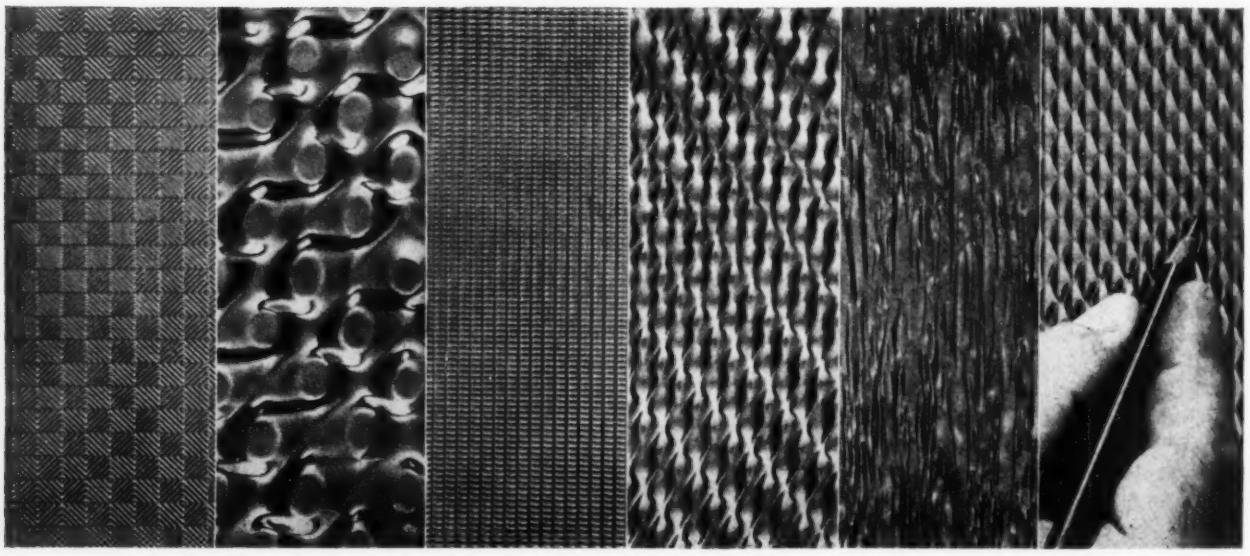


3. Upper section of conveyor is raised above shelf level. Car rests on horizontal conveyor members and is lifted free from shelf . . .



4. Conveyor retracts onto elevator, carrying car with it, lowers in place. Elevator transports car to main level

LITERATURE FOR THE OFFICE



Above: these are a few of numerous textured finishes available in stainless steels. Hand indicates scale of pattern for each

Stainless Steels

Architectural Uses of the Stainless Steels. Booklet describes and illustrates a wide variety of architectural applications for stainless steels. Features and advantages are cited and photographs of actual installations point up the text. A section showing stock parts is included, and another section deals with architectural treatments of interiors, fronts and entrances, exterior walls, and flashing, roofing and drainage. The booklet is rounded out with a section of technical data which includes a table of stainless steel types. Detail drawings of typical solutions to various problems are included. 31 pp., illus. Committee of Stainless Steel Producers, American Iron and Steel Institute, 350 Fifth Ave., New York 1, N. Y.

Refrigeration Equipment

Thesco Equipment. Spiral bound collection of separate bulletins describing and illustrating the manufacturer's line of diversified refrigeration equipment. Included are storage refrigerators, service refrigerators, "Two-Temp" refrigerators, ice chests, freezers and mortuary refrigerators. 52 pp., illus. The G. Schmidt Co., John and Livingston Sts., Cincinnati 14, Ohio.

** Other product information in Sweet's File, 1952.*

Welding of Metals

Weldability of Metals. This book is a direct reprint of chapter 2 of the manufacturer's "Procedure Handbook of Arc Welding Design and Practice," ninth edition. It describes various types of carbon and alloy steels and gives chemical analyses and descriptions of properties, uses and characteristics for each type. Best welding procedure for each is detailed, and American Welding Society specifications for electrodes used to weld are included. Similar information is given for copper, aluminum, nickel and their various alloys, as well as for cast iron, forgings, cast steel, wrought iron, ingot iron, galvanized steel, terne plate and enameling stock. An analysis of principles and practices of hardsurfacing is included. The text is supplemented with tabular data, drawings and photographs. 141 pp., illus. Price 50 cents. Lincoln Electric Co., 22801 St. Clair Ave., Cleveland 17, Ohio.

Drawing Equipment

Gifts by Anco, Special Bulletin No. 29. Folder illustrates the manufacturer's wood specialties for professional and student draftsmen and artists. Included are drawing tables, drawing boards, sketching easels, pantographs, illuminators, sketch boxes and accessories. 2 pp., gatefold. Anco Wood Specialties, Inc., 71-08 80th St., Glendale 27, Long Island, N. Y.

Stage Rigging Specifications

Standard Stage Rigging Specifications, Architectural. Designed to aid the architect in specifying equipment for stages in theaters, schools and auditoriums, this booklet includes specifications for the following: asbestos curtains, counterweight equipment for asbestos curtain, counterweight equipment upright wire guide, counterweight equipment upright T bar guide, counterweight equipment underhung wire guide, draw curtain tracks and electric curtain controls. 11 pp., illus. J. R. Clancy, Inc., Syracuse, N. Y.

Planks and Channel Slabs

(1) Porete Plank: Circular No. 69-B; (2) Porete Lightweight Channel Slabs: Circular No. 59-B. Brochure describes the tongue and groove and square edge plank made of lightweight nailable concrete. Details, specifications and other data are included.

Lightweight channel slabs for roofs and floors are described in second circular. The advantages of their use are cited, and sections are devoted to specifications and details. General recommendations to engineers and architects complete the contents of the brochure. 4 pp., illus; 8 pp., illus. Porete Mfg. Co., Porete Ave., North Arlington, N. J.*

(Continued on page 230)

Continual maintenance...

or no maintenance at all?

This typical ADLAKE Window has been in service for 11 years, with no maintenance whatever!

Which would you choose for your windows?

It's true—you can end window maintenance once and for all with ADLAKE Aluminum Windows! No scraping . . . no painting . . . no repairing . . . they require *absolutely no maintenance whatever* except routine washing . . . for the life of the building!

And ADLAKE construction assures a perfect weather seal for life. The exclusive combination of woven-pile weather stripping and patented serrated guides gives snug protection against wind and weather, plus lasting finger-tip control.

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THE Adams & Westlake COMPANY

Established 1857 ELKHART, INDIANA New York, Chicago

St. Francis Hospital, Trenton, N. J. The new $3,000,000 8-story addition, shown at left, is now under construction. Architects and Engineers: Schmidt, Garden & Erikson, Chicago. Heating Contractor: Wm F. Hindley Co., Trenton. Operation of St. Francis Hospital is under the direction of the Sisters of the Third Order of St. Francis.

MEET HOSPITAL REQUIREMENTS

with Modern Controlled Steam Heating

Balanced Heating . . . Outdoor Thermostat Control . . . Continuous Steam Flow . . . First applied to modernize older buildings . . . Now being installed in new addition.

Schmidt, Garden & Erikson, Chicago Architects and Engineers noted for their hospital work, are the creators of the completely modern addition now being erected alongside the older buildings of famed St. Francis Hospital, Trenton, New Jersey. This new addition will have modern controlled steam heating incorporating the proven principles adopted in modernizing the original vacuum heating installation in the existing buildings.

The three original buildings, the most recent completed in 1927, were overheated, indicating fuel waste and involving considerable maintenance. In 1949 the original system was changed to a Webster Electronic Moderator System by John G. Carr Co., Inc., Trenton heating contractor.

Reporting results, Chief Engineer A. P. Scharer said that the modernization was paid for out of fuel oil savings in less than two years. Further, these older buildings are comfortably heated, with a noticeable absence of overheating in mild weather.

Is your hospital in need of modernization? It will cost you nothing to investigate. There are Webster representatives in 65 cities experienced in working with owners, architects, engineers and heating contractors in the solution of specific heating problems. Ask to see your Webster Representative.

Address Dept. AR-1

WARREN WEBSTER & COMPANY

Camden 5, N. J. Representatives in Principal U. S. Cities

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WEBSTER

MODERATOR

SYSTEM

OF STEAM HEATING

"Controlled by the weather"

STAINLESS STEEL—3

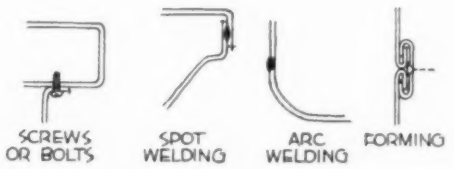
Presented through the Courtesy of the Committee of Stainless Steel Producers, American Iron and Steel Institute

Stainless Steel Ceilings

Flat stainless sheets are used occasionally as ceilings for high rooms, such as lobbies. Perforated stainless ceilings are employed for acoustical reasons. Sometimes the space above such ceilings is a ventilating plenum chamber. Also, sanitary considerations dictate stainless steel walls and ceilings in many kitchens and food handling areas.

In all these, the important design feature is the expansion joint. Any large metal area must have freedom to expand and contract with thermal changes. Otherwise, it buckles or wrinkles. It becomes almost impossible to stiffen such areas adequately for good appearance. Any frame or angle rigidly attached to stainless sheets should also be stainless steel. Differential expansion of two metals causes warping.

JOIN STAINLESS PIECES WITH:



It should be noted that most joints do two other things in addition to their expansion function. They add stiffness at the edges. Also, they frequently embody schemes for concealing screw heads, bolts, etc. Choose an arrangement that satisfies design requirements without overstepping the economical work-range of the metal fabricator.

Fastening Methods

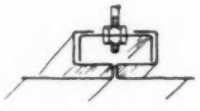
There are four principle ways of putting stainless pieces together: screws, spot welding, arc welding and seamed or clipped joints.

Use screws when the components must be taken apart occasionally. It may sometimes be wise to specify screwed fastenings in case the fabricators and installers should be inexperienced or unequipped to handle other techniques. Occasionally sheet metal screws reduce fabrication and assembly costs to the point where economy dictates their use. However, jobs involving large numbers of similar parts usually warrant extra tooling, more shop-made joints and fewer screwdriver operations on the site.

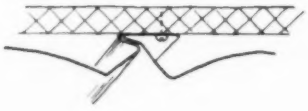
Screws and nuts should be stainless. If dissimilar metals are joined, insulate faying surfaces with a coat of sealer of some kind to prevent

CONCEALED FASTENINGS & EXPANSION JOINTS

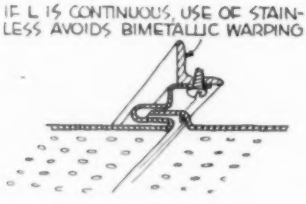
Wall or ceiling treatment for light-gage metal and modest expense



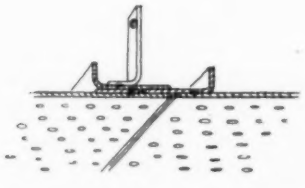
Simply-made hanger and expansion joint for light-gage stainless ceiling



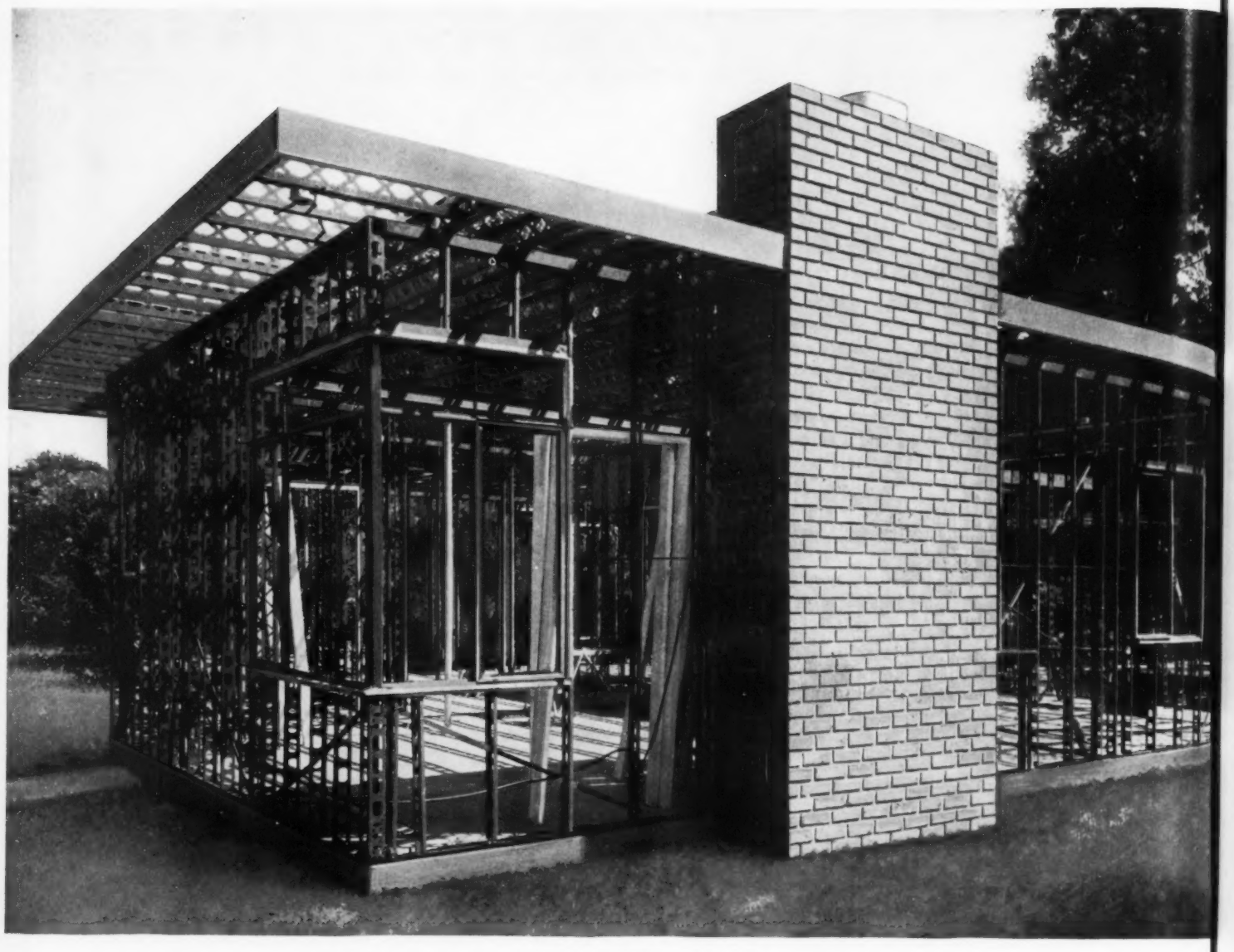
Many stock, roll-formed sections are available with joints of this type. They can be used for interiors and exteriors



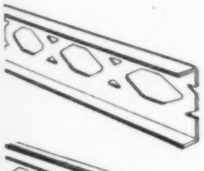
This type of expansion joint in a high-quality perforated stainless steel ceiling would require tooling for the elaborate bends. Thus, it would be undesirable on a small, shop-built job



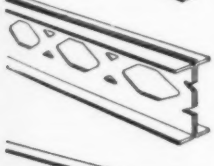
Built-up, spot-welded expansion joint would be most economical for most stainless steel fabricators. Note bent angles for stiffness



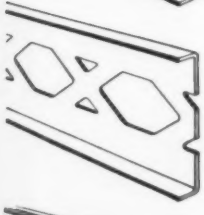
PENMETAL ANNOUNCES BRAND NEW Lightsteel STRUCTURAL SECTIONS



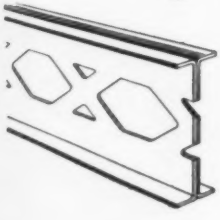
STUD
3¼" and 4"
16 and 14
gauge



DOUBLE STUD
3¼" and 4"
16 and 14
gauge



JOIST
6" and 8"
16 and 14
gauge



DOUBLE JOIST
6" and 8"
16 and 14
gauge

ASK THE typical building owner—whether commercial, industrial, institutional or residential—how he'd like to have a house with a steel frame. You'll get a quick "yes" for an answer.

The good news is that he can have it! He can forget about rot and termites. Penn Metal Company, Inc. has devised a system of Lightsteel structural sections that brings the strength and permanence of steel to light construction for an economical figure.

PENMETAL Lightsteel Structural Sections have already been widely tested and well received on the West coast. When used with pumice concrete and gypsum, architects and builders are finding that they provide a long life, low maintenance structure. They're particularly well suited to the requirements of modern design.

How about cost? Cost is the best part of the PENMETAL story. The cold-rolled sections are available at a total cost less than most competitive materials.

The *extra* benefits of PENMETAL Sections are substantial. Pre-cut lengths in a variety of stock, plus a complete line of accessories, speed the job. Openings in studs and joists make for rapid installation of conduit and piping. A high strength/weight ratio means easy, quick handling, fewer man hours.

Fire resistance is excellent. A 2½" concrete slab on PENMETAL Lightsteel Structural Sections with 1" of light-weight plaster on ceilings or walls wins a 4 hour rating, far above average. Insurance costs are reduced.

PENMETAL Sections are the ideal solution for the building owner who wants the satisfaction and comforting feeling that his structure is framed with *steel*.

Our fact-filled catalog gives you complete specifications and data. It's yours for the asking. Address Penn Metal Company, Inc., 205 East 42nd Street, New York 17, New York. Ask for Catalog SS-20.

STAINLESS STEEL—4

Presented through the Courtesy of the Committee of Stainless Steel Producers, American Iron and Steel Institute

electrolytic action. On exterior work, use stainless steel fasteners even in concealed locations as a precaution against unsightly rust streaks.

Spot welding offers a very inexpensive way to "stitch" thin metal sheets together. It is normally a shop operation. It has all the advantages and disadvantages of being a permanent joint.

There has to be enough room on both sides of a spot welded joint so that the electrodes can be brought to bear during welding. It is not economical to make specially-shaped electrodes except for a high-production job.

Marks left at the welds can be polished off if necessary. It is possible to make this job easier by using a flatter, larger electrode on the side of the joint that must look good.

Arc welding with butt joints is a standard method of fabricating sanitary food handling equipment of stainless steel. The weld head can be ground down and polished until it blends with adjacent metal.

Architects can use this technique to obtain longer or larger pieces than stock sheets or fabricator's equipment can normally supply. Several sections may be welded together into a continuous unit. Welding and polishing can be performed on the site, but a better, easier job is possible using shop equipment.

Possibilities of seamed, clipped, cleated and snap-into-place joints are almost infinite. They are used in stainless steel in the same places and for the same reasons that sheet-metal workers have always employed them on other materials. Many special proprietary fasteners are made of stainless.

Lap-seam joints used in stainless roofing and flashing are often soldered for a watertight seal. This practice has long proved satisfactory and economical. However, solder by itself does not have enough strength to serve as a joint between stainless members. Some mechanical lock in addition is required.

Wall Ties and Masonry Anchors of Stainless Steel

Masonry anchors are nominally protected from the weather. Yet seepage and frost-broken mortar can expose them to corrosive conditions. Failures have been recorded. In many older buildings, masonry has had to be removed because rusted tie bars created hazards from falling stone, brick or terra cotta.

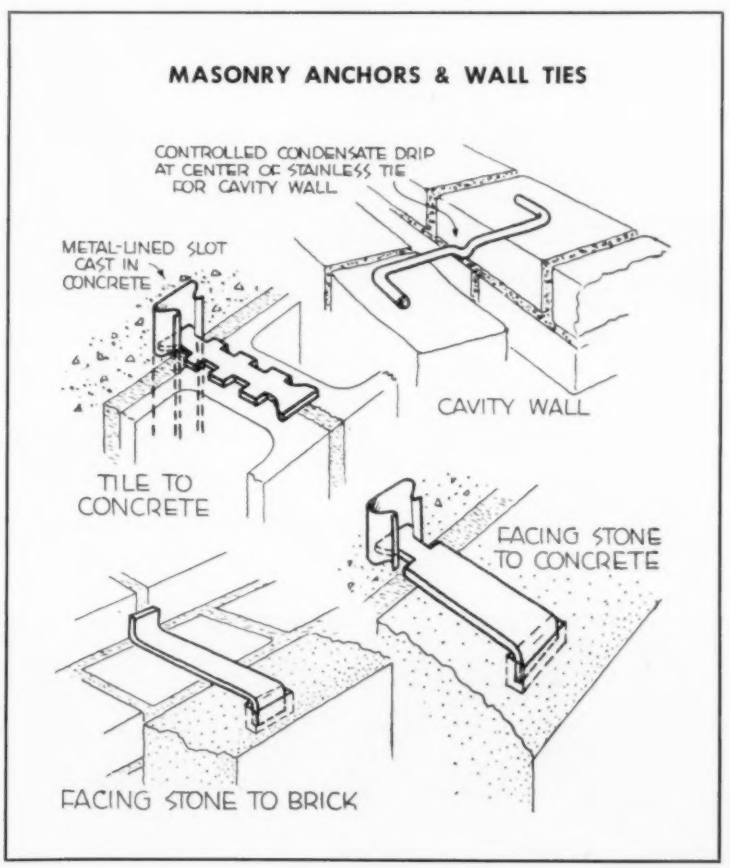
To specify a corrosion resisting material like 17 per cent chromium, Type 430 stainless steel for masonry ties and anchors may often be a soundly justified precaution.

Roofing, Drainage, Flashing

For roofing, gutters, leaders and all kinds of flashing, the same designs are used with stainless as with any other metal. Lighter weight sections are permitted by stainless steel's greater strength. For this reason it is often practicable to work with larger pieces and longer lengths.

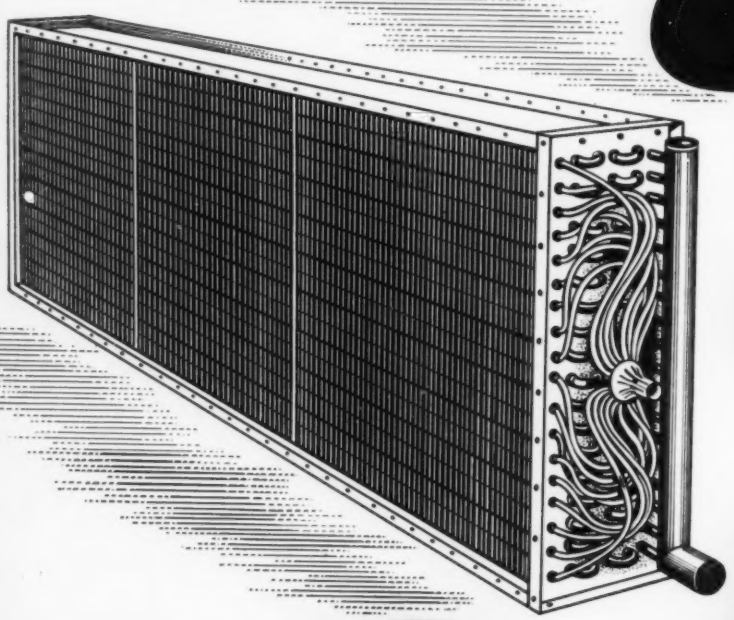
Stainless Mesh and Grids Need No Paint

Bars, rods, wire mesh, expanded metal and formed plates serve the designer by imparting a feeling of light, airy tracery to his work. These elements, in stainless, need be no heavier nor thicker than design requirements indicate, and allowances for rusting are unnecessary. Since corrosion resistant stainless steel needs no protective coating of any kind, maintenance costs on such hard-to-paint surfaces are cut considerably.


MASONRY ANCHORS & WALL TIES
CONTROLLED CONDENSATE DRIP AT CENTER OF STAINLESS TIE FOR CAVITY WALL
METAL-LINED SLOT CAST IN CONCRETE
CAVITY WALL
TILE TO CONCRETE
FACING STONE TO CONCRETE
FACING STONE TO BRICK

TIME-SAVER STANDARDS Architectural Engineering

ANYONE CAN BUILD A FINNED COIL . . .



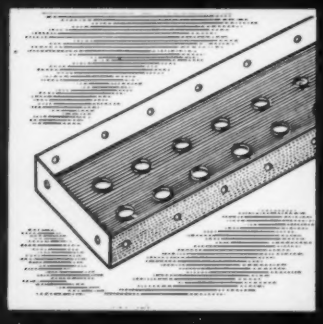
But BUSH finned coils aren't just BUILT, they're ENGINEERED . . . constructed to rigid specifications . . . accurately rated . . . by HEAT TRANSFER ENGINEERS.

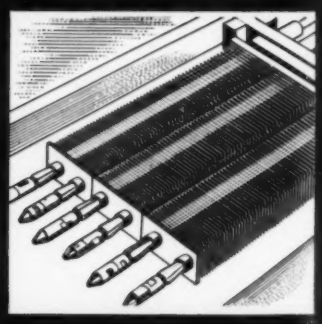
Consider these advantages of BUSH finned coils:

- Tube sheets and top and bottom plates constructed of heavy gauge zinc coated steel. Flange and hole spacing arrangement simplifies duct connection.
- Tube sheets and headers have die-formed lipped holes—providing greater bearing area between tubes and header. End caps dished for added strength and rigidity.
- Tight fin-to-tube bond insured by expanding tube mechanically during construction.
- All direct expansion coils are rated with allowance made for pressure drop on the refrigerant side. User pays no penalty in performance. BUSH coils deliver as rated.
- Direct expansion and water coils constructed with extruded collar fins . . . furnishing a large bearing surface between fin and tube and insuring high heat transfer.
- In all non-freeze steam coils, steam is supplied and condensate returns through the same header, simplifying the piping problem.

New catalog — free on request — describes and gives specifications on all types of Bush coils.

Your nearest Bush sales engineer will be glad to offer help or advice on coil selection.





BUSH MANUFACTURING COMPANY

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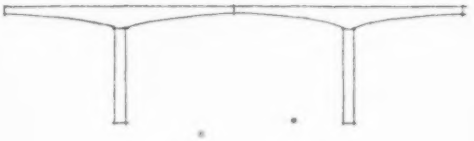
STRUCTURAL FORMS—13: Plywood Girders and Glued Laminated Beams

By Seymour Howard, Architect, Instructor at Pratt Institute

GLUED LAMINATED BEAMS & GIRDERS

Arch and rigid frame shapes in wood may not be the most practical to use for long spans in wood. Glued laminated beams or plywood girders have their place particularly for one-story buildings extending many bays in two directions, for heavy loadings such as gantry cranes and for multi-story buildings:

Top edge tapered for roof drainage



Double cantilever sections

Besides beams (and columns) of uniform section, tapered and cambered members are easily made. For calculating sections, use "allowable unit stresses for structural glued laminated lumber" in National Lumber Manufacturers Association's "National Design Specification"—Most used values: (Southern Yellow Pine & Coast Region Douglas Fir)

	For Dry Conditions of Use	For Wet Conditions of Use
"E"	1,800,000 lbs/in.²	1,600,000 lbs/in.²
Extreme Fiber (bending)	2200 lbs/in.²	1800 lbs/in.²
Horizontal Shear	165 lbs/in.² (D.F.)	145 lbs/in.² (D.F.)
	200 lbs/in.² (Y.P.)	175 lbs/in.² (Y.P.)

PLYWOOD GIRDERS

Tapered and cambered shapes can easily be made in plywood girders. Stock plywood dimensions should be used if possible.

Maximum span about 100 ft. Usual depth about ⅛ to 1/12 span (some have been used 1/22 span)

For approximate calculations, assume flanges take all the moment, web takes all shear

$$\text{Area (of one flange)} = \frac{M}{\text{total depth} \times \text{allowable unit stress, compression 11 to grain}}$$

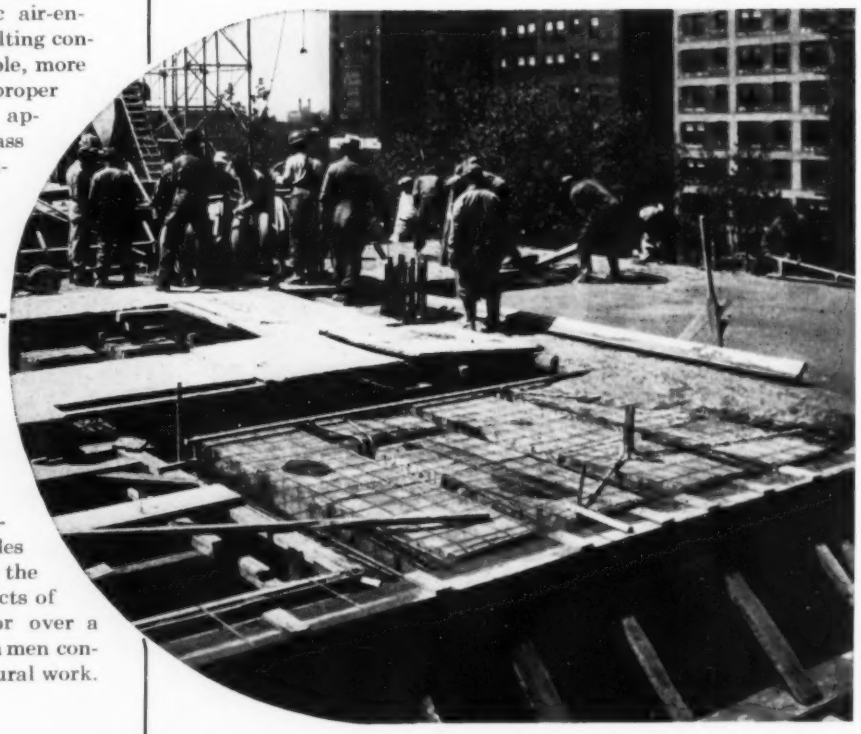
$$t'' \text{ (or } \Sigma t'') = \frac{5}{4} \times \frac{V}{\text{total depth} \times \text{allowable shear stress for grade of plywood}}$$

For nailing, spacing (each side) "P". For nail-gluing, provide one nail per 8 to 10 sq in. of glue joint (P should not exceed 6 in., even in region of minimum shear.)

$$P = \frac{2xh_1}{V} \times \text{allowable lateral nail bearing lbs/nail}$$

Better for structural work

Less mixing water is required for a given slump when you use Duraplastic air-entraining portland cement. The resulting concrete is more plastic, more workable, more cohesive and uniform. This aids proper placement and improves surface appearance of both structural and mass concrete jobs. This is especially important when columns are heavily reinforced as shown in photograph.



Makes more durable concrete

When Duraplastic is used for structural concrete, billions of tiny entrained air bubbles minimize water gain and segregation. Thus the finished concrete is fortified against the effects of freezing-thawing weather. That's why, for over a decade, an increasing number of construction men continue to specify Duraplastic for their structural work.

YET DURAPLASTIC* COSTS NO MORE

It sells at the same price as regular cement and requires no unusual changes in procedure. Complies with ASTM and Federal Specifications. For descriptive booklet, write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

OFFICES: *Albany, Birmingham, Boston, Chicago, Dayton, Kansas City, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis, Waco.*

"Duraplastic" is the registered trade mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company.

AR-D-123 R

ATLAS® **DURAPLASTIC**

AIR-ENTRAINING PORTLAND CEMENT

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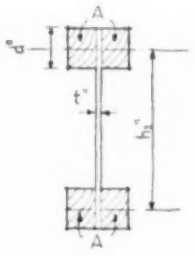
Makes Better Concrete at No Extra Cost

"THE THEATRE GUILD ON THE AIR"—*Sponsored by U. S. Steel Subsidiaries—Sunday Evenings—NBC Network*

STRUCTURAL FORMS—14: Plywood Girders and Glued Laminated Beams

By Seymour Howard, Instructor at Pratt Institute



I Section

Limited by available plywood thickness to shorter spans

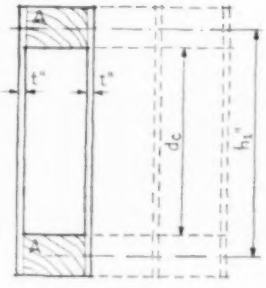
Typical Values

Allowable shear stress in plywood		Allowable nail loading	
Exterior DFPA–A–A	210 lbs/in.²	8d	78 lbs/nail
" " A–B; A–C	192 lbs/in.²	10d; 12d	94 lbs/nail
" " B–C; C–C		16d	107 lbs/nail
" B–B	180 lbs/in.²	20d	139 lbs/nail
Interior A–A; B–B; C–D	178 lbs/in.²	(Based on Nat'l. Lumber Mfrs. Association "National Design Specifications")	
" A–B; A–D	163 lbs/in.²		
" B–D	153 lbs/in.²		

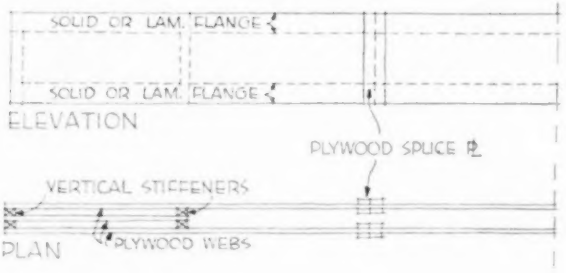
Flanges may be solid or laminated wood. They may be nailed, nail-glued or glued to plywood web (see sections at left)

Depth of flange d should be minimum 4t" for glued assembly, more for nailed, depending on amount of nailing required

For glues, see T.S.S. Sheet #6 on Structural Forms

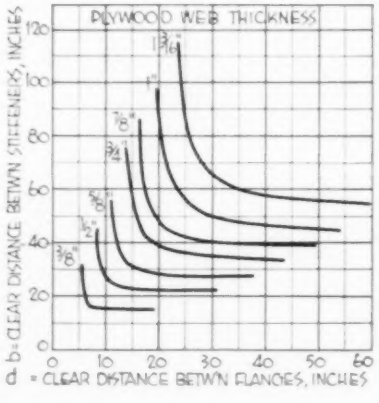


Box Section



Detail of Typical Girder

Notes: Upper flanges must be braced laterally; Joists can be used for this; Plywood splice plates are used at each joint in the web



Spacing of Stiffeners

This spacing b" will prevent web buckling and develop full plywood shear strength. Spacing may be increased to 3b as shear stress decreases to ½ allowable

Stiffeners are required under point loads in addition and at supports

References: Lab Report No. 58, "Plywood Beam Design Factors," by David Countryman & Vernon D. Haskell (Oct. 1952); "Technical Data on Plywood," published by Douglas Fir Plywood Association, Tacoma 2, Wash.

MATICO PRESENTS

Confetti

- 10 FESTIVE COLORS
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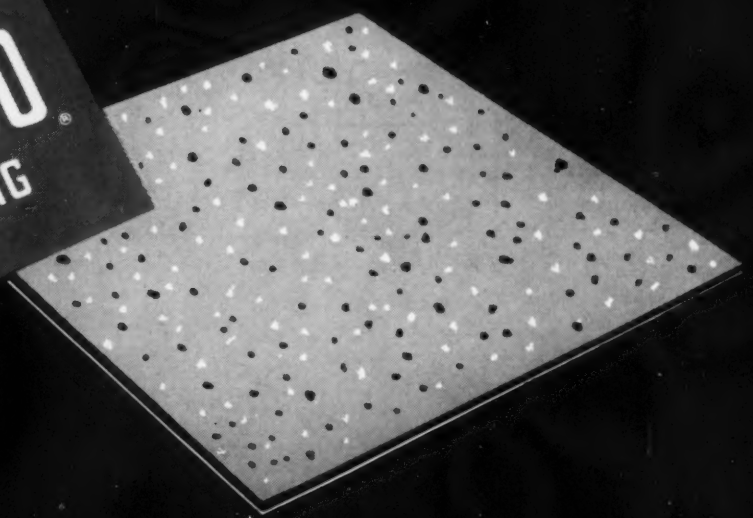

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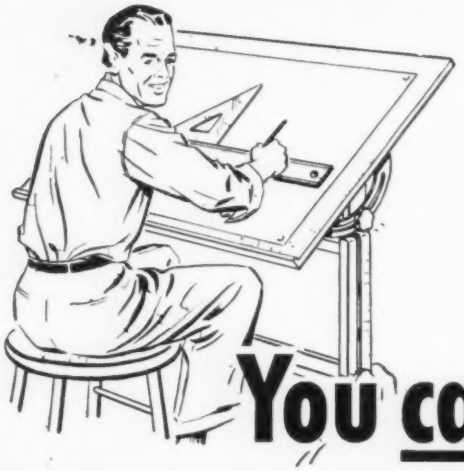

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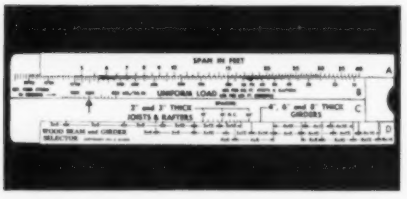
PRODUCTS

(*Continued from page 175*)

Slide Rule Selector for Wood Beams and Girders

Simplification of procedure in designing wood beams, rafters and joists is reportedly made possible by a new folded plastic slide rule. The device consists of a rule with two reversible slides which move separately. On the front of the slides are printed two scales for members in bending where deflection is not a factor. On the reverse of the slides are scales for members where deflection



Slide rule device simplifies selection of wood beams, girders, joists

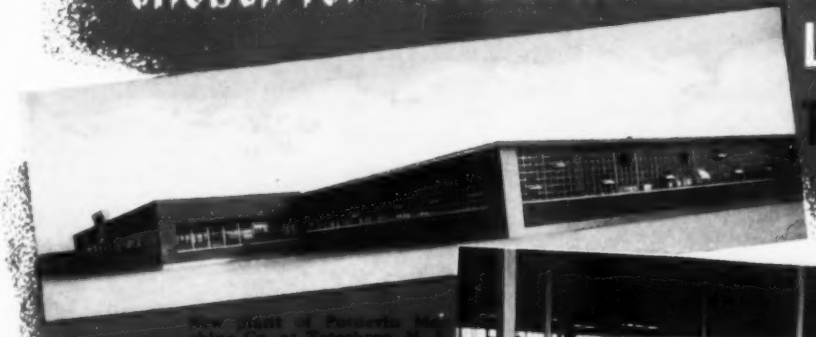
must not be excessive. When the scales are set for proper load, span length and fiber stress, the proper size member for the desired spacing can be read directly at the bottom of the rule. When the rule is once set, the most economical wood member for any spacing can be selected without further figuring. Suggested stresses for commonly used lumber species are tabulated on the back of the rule, and a case and instruction manual are included with it. Everett Rader Co., P.O. Box 122, Bowling Green Station, New York 4, N. Y.

Birch-Finished Metal Doors

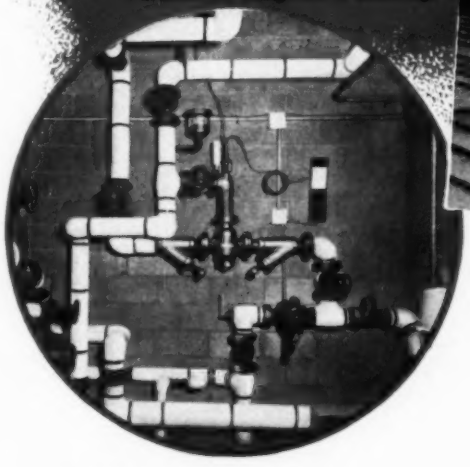
Amweld knocked-down sliding closet doors are now available in a birch finish to harmonize with flush birch swing doors. The door units come as a complete package — containing all necessary hardware, jambs, header, track, door panels and installation print. The panels are available for 3, 4, 5 and 6-ft openings, with two by-passing panels for each size. Hardware for the panels includes non-tarnishing plastic door pulls which harmonize with the birch

(*Continued on page 192*)

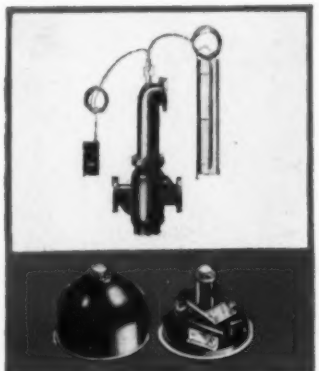
Sarcotherm Heat Control System chosen for POTDEVIN MACHINE COMPANY'S LARGE PLANT at Teterboro, N. J.



86,000 ft. of steel pipe are arranged in serpentine coils for the radiant heating system. Heating Contractor, Frank Lawton, Paterson, N. J



One of the 5 Sarcotherm Control valves, protected by strainers. A Sarcotherm Air Eliminator will be noted at the right.



The heart of the Sarcotherm control system is this unique control valve. It is actuated by liquid expansion thermostats, one located outside the building and one in the valve itself. Between them they anticipate changes in heat loss ratio, thus maintaining comfort temperatures under all conditions.

The Sarcotherm Comfort Control "Thermoray" is an extremely sensitive thermostat affected by both radiation and convection.

This latest addition to the industrial plants at Teterboro terminal covers an area of 102 thousand square feet.

The single story building is radiant heated by floor coils requiring 86,000 feet of pipe.

The system is divided into five zones, each controlled by a 3″ Sarcotherm Control Valve, type STA-1D, with Thermoray heat-loss thermostat for each zone.

Sarcotherm also furnished Sarcoflow balancing fittings, access boxes, strainers and other accessories.

This is the largest single story industrial building in the East, radiant heated by floor coils.

We are proud that

Sarcotherm Control

was selected for this outstanding job. Individually engineered Sarcotherm Control systems are available also for conventional forced Hot Water or Steam Heating Systems. Our Engineering Department will be glad to assist on your next job.

24

Sarcotherm CONTROLS, INC.

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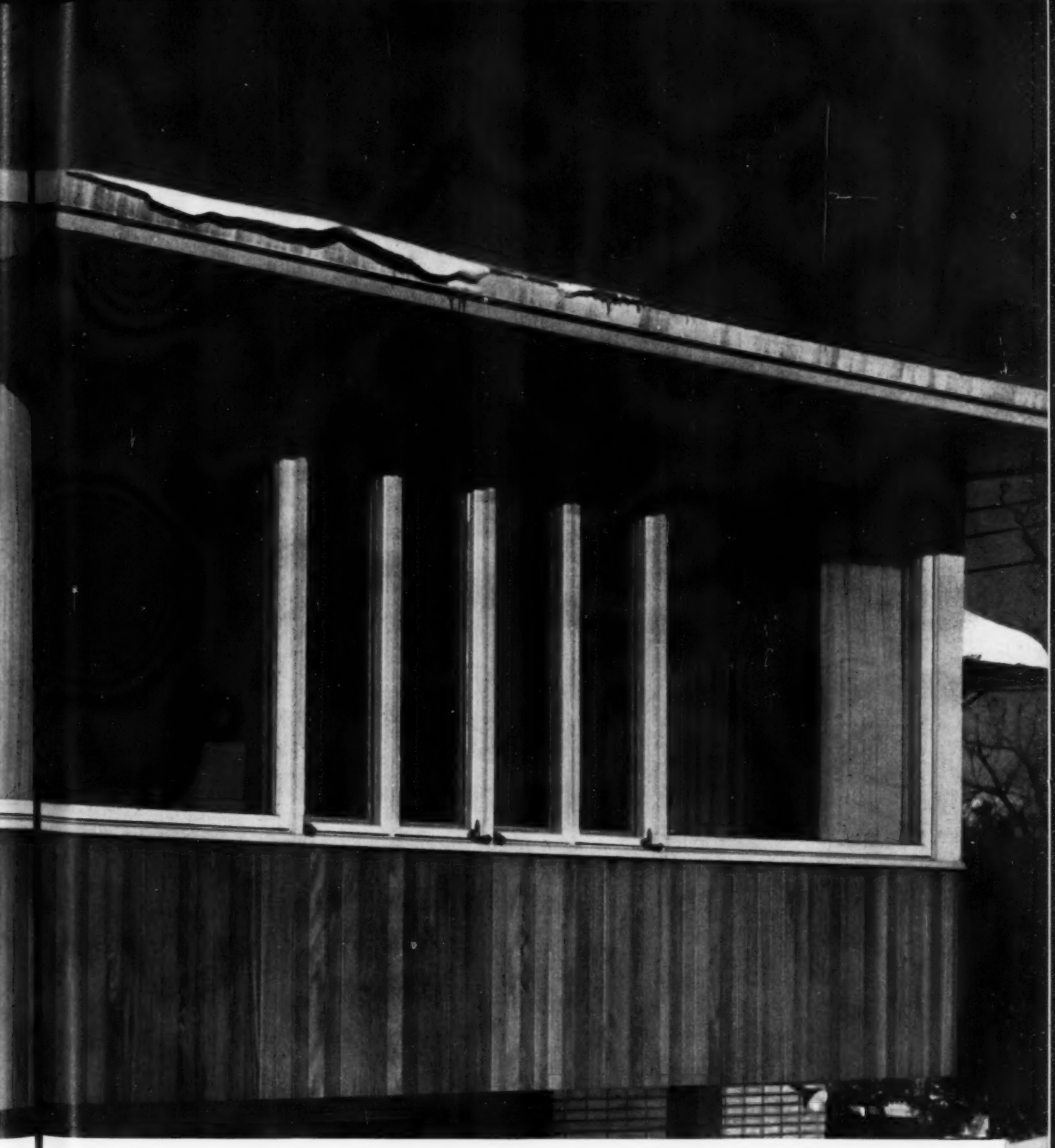

SUNSHINE FLOODS into this livingroom with a warmth that belies the zero temperature outside. Highly weathertight WINDOWALLS of Andersen Casement Window Units protect the owner's perfect comfort. These same WINDOWALLS frame a scene of wintry beauty, and in warmer days, admit every cooling breeze. These are Andersen WINDOWALLS, famed for their beauty, efficient both as windows and as walls.

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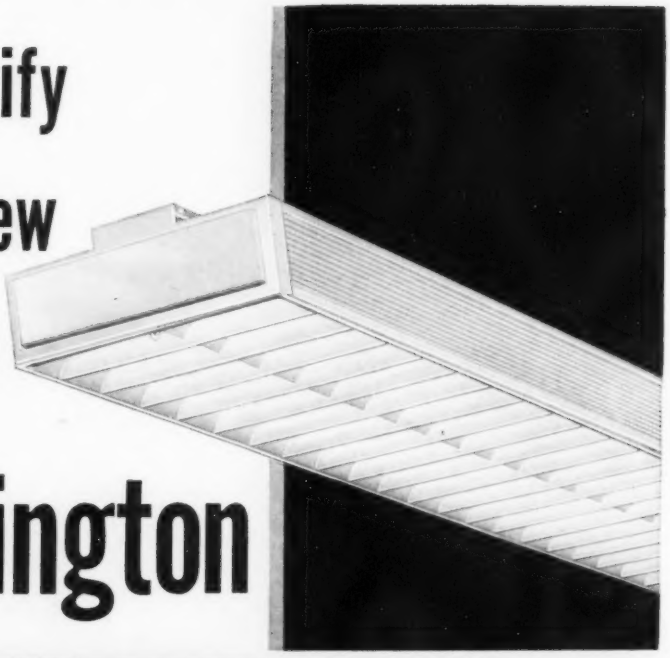


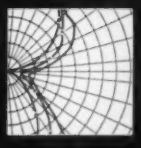
for correct
store lighting

CORRECT LIGHTING is an important factor in the making of sales—it puts customers at their ease—enables them to see merchandise at its best—speeds IMPULSE buying.

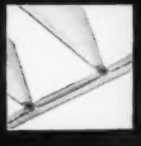
The new Miller BURLINGTON—a distinct advance in store lighting—provides CORRECT lighting of high efficiency without glare. It provides it at L. O. C. (low overall cost)—through engineering features that make for easier, quicker installation, and materially reduce cost of maintenance.

Write for Burlington Folder

Miller has a complete line of Fluorescent, Mercury and Incandescent luminaires, covering a wide range of industrial and commercial lighting requirements. NATION-WIDE SERVICE is available through Miller field engineers and distributors.



High lighting efficiency—no glare



Extremely strong, rigid one-piece steel louver assembly

Engineered for easy lamping and servicing

Modern design—architecturally styled for interior harmony

THE miller COMPANY
SINCE 1844
meriden, conn.

PRODUCTS

(*Continued from page 188*)

finish; two self-adjusting, spring-held nylon guide keepers, bound in felt to prevent sway and derailing; and nylon rollers which add to the quiet operation of each sliding panel. The American Welding & Mfg. Co., 500 Dietz Rd., Warren, Ohio.

Drive-Up Book Return For Libraries

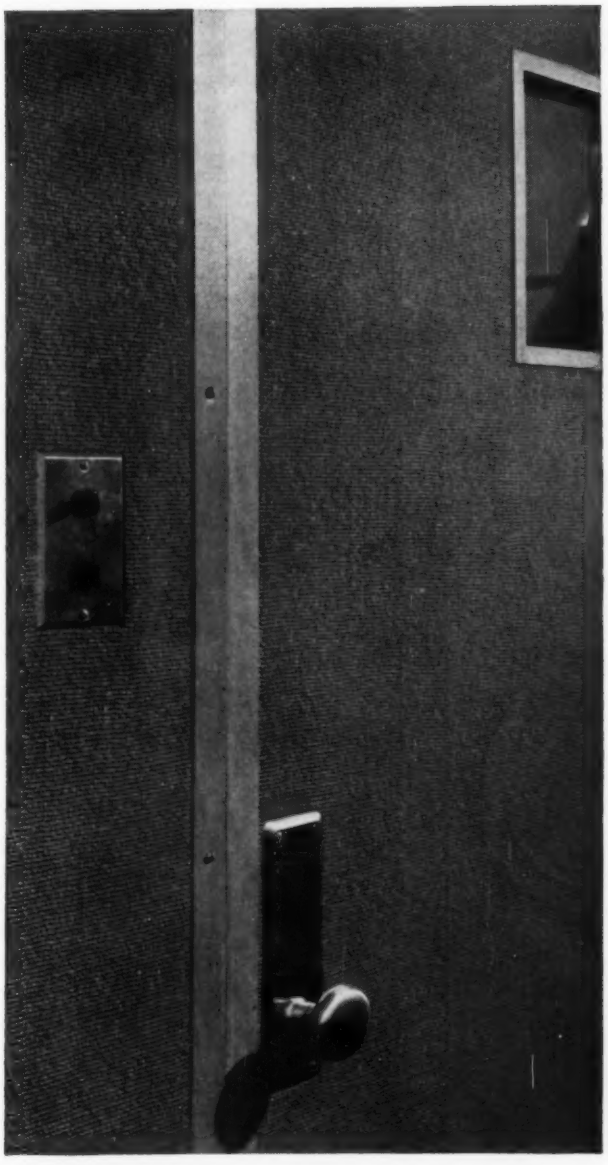
The *Auto-Page* is a new drive-up book return box designed to make returning of volumes to libraries more convenient for the borrower. The box looks somewhat like a mail storage box and can be installed at curb edge where it can be conveniently reached from an automobile. The borrower drives up to the box, pulls a lever which lowers a shelf, places his books on the shelf and lifts the lever

Drive-up book return box makes returning of library volumes more convenient

again. The books are deposited inside the box to be collected later. The box is constructed on 14-gage steel with an inner construction controlled by springs to prevent unnecessary abuse of books. No book is dropped more than 12 in. The box is reportedly weatherproof and theft-proof and has a front hood which is removable for repair in case of accident. Outside dimensions are 2½ ft sq by 5 ft high. The Boardman Co., Box 1152, Oklahoma City, Okla.

(*Continued on page 196*)

architect selects for walls of American Building!



"We used Bigelow's Cushionlok Carpet for the wall space and sliding doors at American Airlines, for we believe the carpet absorbs noise, and at the same time results in a long-lasting surface that helps prevent glare from the lighting.

"Employees and visitors will find the surroundings are almost entirely free from noise—resulting in pleasant, comfortable rooms.

"We are well pleased with the performance of the Bigelow Carpet in this installation."

Here again Bigelow's famous Cushionlok was chosen because of its outstanding acoustical properties. It is not unusual to find that Bigelow's Cushionlok insulates and absorbs sound so effectively that often no further acoustical treatment is necessary.

Are you planning an installation? Then consult Bigelow's experts as early in your planning as possible. Call on their company's long experience in helping you select the carpet that will best suit your needs.

These trained specialists are ready to help find the best color, pattern and weave for your purpose—at a price suitable for you.

So get in touch with Bigelow today by calling the sales office nearest you. *There is no charge for this service!*

For a sample of Cushionlok, write on your business stationery to Dept. A, 140 Madison Ave., New York 16, N.Y.

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BIGELOW
Rugs – Carpets

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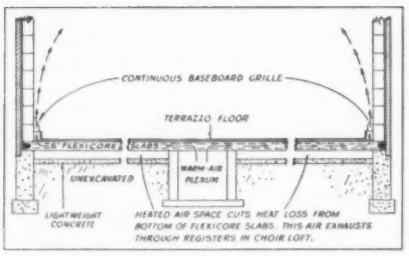
Bigelow sales offices are located in the following strategic cities: Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Buffalo, N.Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Columbus, Ohio; Dallas, Tex.; Denver, Col.; Detroit, Mich.; Indianapolis, Ind.; Kansas City, Mo.; Los Angeles, Calif.; Milwaukee, Wisc.; Minneapolis, Minn.; New York, N.Y.; Philadelphia, Penna.; Pittsburgh, Penna.; St. Louis, Mo.; Salt Lake City, Utah; San Francisco, Calif.; Seattle, Wash.; Hartford, Conn.; High Point, N.C.

PRODUCTS
(*Continued from page 192*)

New Heating System for High-Ceilinged Auditoriums

In a new heating system designed by Albert A. Rumschik, Architect, for the St. John the Baptist Roman Catholic Church, Tonawanda, N. Y., radiant panel heat and circulating warm air were combined. The purpose of the system was to provide a comfortable concentration of heat at the seating level in a high-ceilinged auditorium of 9301 sq ft. The system heats and ventilates the lower strata only and eliminates high velocity blowers. It provides a radiant warm panel floor, a blanket of warm air along outside walls and continuous warm air circulation and ventilation.


CONTINUOUS BASEBOARD GRILLE
TERRAZZO FLOOR
FLEXICORE SLABS
UNEXCAVATED
WARM AIR PLENUM
LIGHTWEIGHT CONCRETE
HEATED AIR SPACE CUTS HEAT LOSS FROM BOTTOM OF FLEXICORE SLABS. THIS AIR EXHAUSTS THROUGH REGISTERS IN CHOIR LOFT.

Sketch indicates design and operation of new heating system. Warm air circulates through hollow floor slabs and blankets outside walls

The system requires only a single warm air plenum. In St. John's Church, this plenum extends the entire width of the center aisle. Warm air passes from it to hollow cores of precast *Flexicore* floor slabs and is distributed through these, providing floor panel heating. When the air reaches exterior walls it enters the auditorium through continuous adjustable baseboard grills, so that cold outside walls and window areas are blanketed with warm air. Cold air returns are located near the floor in each of two transepts. Floor level drafts are said to be prevented because circulating air is buoyed up by the warm floor.

In unexcavated areas below the auditorium, a topping of lightweight concrete protects floor slabs from ground cold and condensation. A heated air space between this and the concrete floor slabs minimizes heat loss as warm air crosses the auditorium, and reportedly maintains uniformity of temperature over a large area. This air exhausts through registers in the choir loft.

Simplicity and economy are cited as features of the system. Installation costs were lowered, since the manufacturer's standard hollow-cast floor slabs afforded the designer "built in" ducts of 4½ in. diameter and limited major ductwork to a single plenum. Operation costs are also lowered since air is not wasted in the upper area of the auditorium. Flexicore Co., Inc., 1932 E. Monument Ave., Dayton 1, Ohio.

Decorative Mirror

Easily maintained and a decorative asset to the more formal types of rooms, *Goldtex* mirrors have been used effectively in W. & J. Sloane's Fifth Ave. store. An antique gold vein running through the mirror gives an interesting textural effect — both in the contemporary and traditional background. Suitable for cornices and fireplace walls as well as more elaborate paneling, it blends handsomely with most materials and can be used in reception rooms, offices, restaurants and many other installations. Abbott Glass Co., 160 E. 120th St., New York, N. Y.

(*Continued on page 200*)

That modern touch

RESOLITE

Shade from the sun, but with bright daylight inside — that's why Resolite translucent structural panels are bringing the modern home closer to the outdoors. Resolite is better for skylighting because it filters out much of the heat, gives a soft, restful daylighted interior, as in this weather-tight, Resolite-roofed patio of a Florida residence.

Resolite is a rugged structural sheet of Fiberglas-reinforced resin plastic, flat or corrugated for added structural strength. The material is unaffected by weather extremes of heat, cold or moisture. It will not rust, oxidize, mildew or rot. It is simple to apply with screws or nails and with ordinary tools and skill; it is easily adapted to roof, wall or partition.

A wide variety of color and corrugation patterns lends Resolite easily to endless possibilities in interior or exterior decoration.

Beautifying the interior or exterior by either reflected or transmitted light, Resolite panels are ideal for decorative and utility partitions, with a selection of color for any motif. The effect of length and height is enhanced by utilizing the corrugation patterns.

For complete information, and name of nearest distributor, write Dept. A-4

RESOLITE Corporation
ZELIENOPLE, PA.

How Many Elevator Operators Will This Office Building Need?

Westinghouse pioneered the operation of a bank of passenger elevators without operators in Detroit's Fisher Building in 1928.

Over the years, Westinghouse engineers have continued to improve elevator operation. Today, they have applied the operator-less principle to Selectomatic—the Westinghouse system that puts elevator cars where you want them, when you want them.

This combination of Selectomatic and operator-less service is being used successfully to control groups of elevators in heavy-traffic buildings occupied primarily by one organization. A careful analysis will show whether it can be applied to your particular needs. Our engineers are ready to study your individual requirements . . . to help you cut operating costs, and save money over the long haul.

Whether you're modernizing or planning a new building, there's a full line of Westinghouse elevator equipment to handle your vertical traffic. We invite you to test-ride our equipment. Call our local office for the name of a nearby installation. Or write Westinghouse Elevator Division, Dept. D-1, Jersey City, New Jersey.

YOU CAN BE SURE...IF IT'S Westinghouse ELEVATORS

PASSENGER ELEVATORS • FREIGHT ELEVATORS • ELECTRIC STAIRWAYS
PROTECTIVE MAINTENANCE AND SERVICE

Advance-engineering by Westinghouse shows management how to save money. J-98657

PRODUCTS
(*Continued from page 196*)

Kitchen Sink with Waste Receptor

Designed for small kitchens in homes and apartments, the *Duwell* is a single bowl, enameled cast iron sink with a built-in waste receptor. A removable chrome-plated basket rests inside a small well which has a separate drain and plug. Perforated sides and bottom of the metal container help to eliminate unpleasant odors of food waste. Dishes may be scraped right in the receptor and then washed in the adjoining sink well. The unit measures 25 in. long and 21 in. wide and can be installed in any counter top using a standard sink frame. The sink well is 13½ in. by 15½ in. and is constructed of durable cast iron.

Handy compartment in sink serves as a waste receptor and beverage cooler

Another attractive feature of the smaller compartment is that it can be used as a cooler for bottled drinks and desserts — when it is filled with cold water or ice cubes. American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa.

Kitchen Range

The *Futura* gas range, featuring an extra wide oven, has recently been introduced to the appliance market. Measuring 30 in. on the outside, the interior of the oven is 23 in. wide — large enough to accommodate as many as six pies at a time — with the broiler also of large dimensions. Completely insulated with Fiberglas, the oven includes a fluorescent lamp assembly built into the backguard, light switches on the backguard and a convenient electrical outlet. A time alarm which sounds at any set time up to 60 minutes is an added feature of the model, along with an electric clock built into the back panel. A roasting chart has also been incorporated in the tubular glass oven door handle. Detroit-Michigan Stove Co., 6900 E. Jefferson, Detroit, Mich.

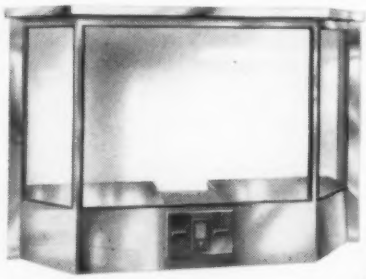
Contemporary Furniture

A combination television-radio-phonograph, designed to be used as a single unit or used together with a matching record cabinet and desk, comprises the *Modernaire* collection, recently introduced to the furniture market. Available either in cordovan or blonde finish on mahogany, the set has a Masonite front which may be obtained in a wide choice of colors. Sliding doors on the record cabinet are also of masonite. The TV screen measures 17 in., and the speaker has a shape resembling a piece of free-form modern sculpture. The complete ensemble rests well above the floor on splayed legs. F. B Arthur Modern Interiors, 1027 First Ave., New York, N. Y.

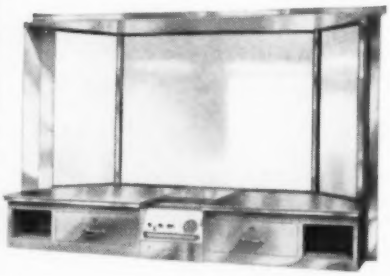
(*Continued on page 204*)

SEE ALL 3—COMPARE—BEFORE YOU SPECIFY

New drive-in-window, developed by H.H.M. engineers, has important, exclusive features which every architect working in this field will want to examine.



Outside view with drawer in closed position. Note clear vision afforded to both teller and customer.



Inside view, showing work top with cash drawers and storage spaces.

Exclusive Type Sliding Drawer Depository—Push-Button Control. The teller presses a button and the depository drawer slides out smoothly, noiselessly. Travel of the drawer is flexible, to make it easily accessible from all types of cars. Another press of the button and the drawer returns to normal position, with its full contents at the teller's fingertips. The automatic operation impresses customers and speeds up transactions. The drawer opening is practically draft-proof.

IMPROVED SOUND SYSTEM

Latest-type two-way communication between teller and customer. The complete speaker unit is built in. The microphone is set into the depository drawer and moves out to the customer. There is no microphone or other electrical equipment to clutter the counter.

22b
See Section HE in 1953 issue Sweet's Architectural File or write for detailed information.

ALL OVER THE WORLD
HERRING HALL-MARVIN SAFE CO.
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IT'S A SAFE NAME

Herring-Hall-Marvin Safe Co.
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BUILDERS OF THE U. S. SILVER VAULTS AT WEST POINT

TO MATCH THE JOB...

together to give you the want !

What air conditioning results do you want? Have you a simple cooling problem—or a complex one? Is it small or large? Does the job require only cooling or does it involve the related problems of heating and ventilating?

Regardless of the nature or scope of your next air conditioning project, the *complete* line of TRANE matched air conditioning products contains exactly the equipment needed to do a superlative job.

Consider these advantages:

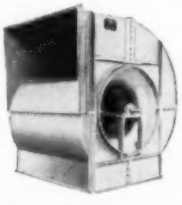
1. UNDIVIDED RESPONSIBILITY The completeness of the TRANE line makes it possible to get the undivided responsibility of one manufacturer.

2. ONE SOURCE OF SUPPLY You save time by dealing with one competent specialist — the TRANE sales engineer —instead of many.

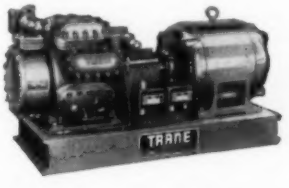
3. ONE SET OF CATALOGS From one handy and complete set of catalogs you can select all the equipment you need.

4. COMPLETE FLEXIBILITY There's a wide range of sizes and models. So flexible is the line, you can, for example, create 10 different 50-ton air conditioning systems.

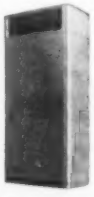
TRANE Cooling Coils . . . Efficient fin-and-tube extended surface. For use with chilled water, well water, or direct expansion refrigerants.



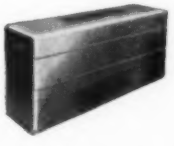
TRANE Centrifugal Fans . . . Class I and II construction with backwardly inclined or forward-curved wheel design. Ruggedly built. Quiet operation.



TRANE Reciprocating Compressor . . . Capacities up to 50 tons. New, automatic cylinder unloading saves power through multi-step reduction.



TRANE Self-Contained Units . . . all-in-one package. 3- to 20-ton capacity. Heating coil optional. 15- and 20-ton available with built-in evaporative condenser.



TRANE UniTrane and Custom-Air Systems . . . Multi-room air conditioning. Individual room control of heating, cooling, humidifying.

We'd like to see you at the ASHVE show!

We have 5 important new products. You can see them *in operation*, Booth 615 and 627, International Amphitheatre, Chicago, Jan. 26 through 30.

AND AIR CONDITIONING EQUIPMENT

TRANE

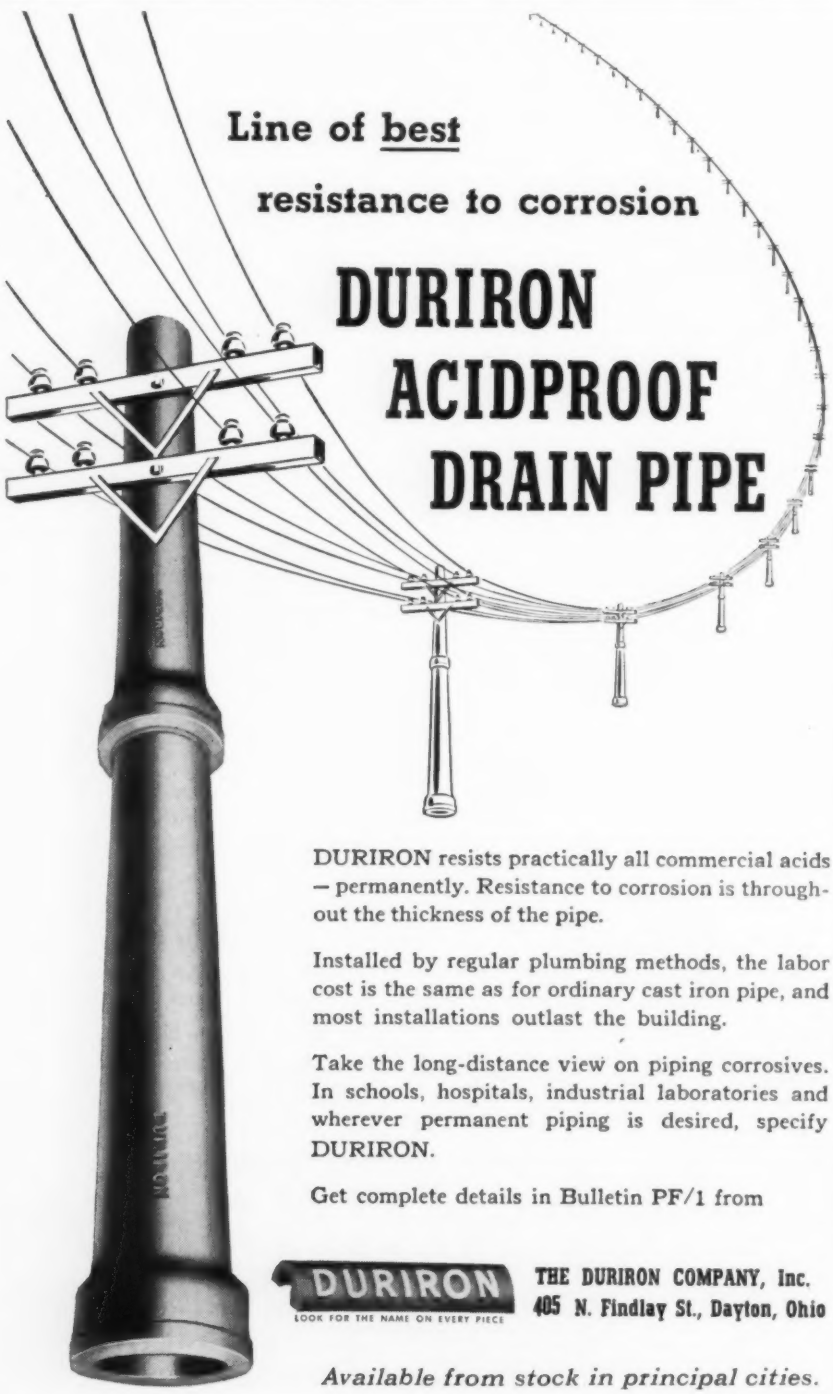
THE TRANE COMPANY, LA CROSSE, WIS.
Eastern Mfg. Division, Scranton, Pa.
Trane Company of Canada, Ltd. . . . Toronto
Offices in 80 U.S. and 14 Canadian Cities

PRODUCTS
(*Continued from page 200*)

Portable Dictating Machine

A new *VP Edison Voicewriter* is reported to be smaller and lighter in weight than any machine of its kind on the market. Less than 2½ in. thick and weighing only 11 lb, the machine fits with ease in a standard size brief case. It contains only 275 cu in. and is gray-beige in color with an aluminum trim. Reportedly easy to operate, it has a single knob, which performs all functions, permitting executive or secretary to recall the last few words spoken or to reproduce the entire content of a disc. The Vinylite diamond discs have a capacity of 30 min of dictation, and a turbine-type blower keeps the mechanism cool. The machine operates on only 25 w; it has two lights which indicate when the machine is on and when it is ready for dictation; an end monitor gives audible warning when the end of a disc is near; and the diamond discs are reusable. Converters are available for automobile or plane use. Thomas A. Edison, Inc., West Orange, N. J.

Compact dictating machine has clean, sleek lines and is easily operated



DURIRON resists practically all commercial acids — permanently. Resistance to corrosion is throughout the thickness of the pipe.

Installed by regular plumbing methods, the labor cost is the same as for ordinary cast iron pipe, and most installations outlast the building.

Take the long-distance view on piping corrosives. In schools, hospitals, industrial laboratories and wherever permanent piping is desired, specify DURIRON.

Get complete details in Bulletin PF/1 from

DURIRON
LOOK FOR THE NAME ON EVERY PIECE

THE DURIRON COMPANY, Inc.
405 N. Findlay St., Dayton, Ohio

Available from stock in principal cities.

Square Recessed Downlight

The *Permaflector Downlight*, which combines a square reflector, lamp and lens, is said to offer maximum, controlled brightness and versatility of application. The unit has concealed hinges and latch and recesses into the ceiling, except for the one-piece, die-cast, hinged frame. The fixture is fitted to accomodate 200 or 300 w lamps and has internal baffles which reportedly prevent light leakage around the frame.

Finished in hot-bond, synthetic white enamel, the units are shipped completely packaged, wired and ready to install. Complete instructions are provided with every unit and installation is described as being easy. A finger pull permits quick opening for cleaning or re-lamping. Concentrating and extensive lenses and a lensed bowl by Corning are available. Pittsburgh Reflector Co., 402 Oliver Bldg., Pittsburgh 22, Pa.

Woven Upholstery Fabric

Reported to fit the curves and contours of the most intricate furniture construction and to "give" under tension, *Vicrtex with Plia-Stretch* is a supported vinyl film, fused to a heavy cotton backing. Requiring no lining or reinforcing in any application, the material has a three-dimensional texture which is said to be resistant to soil and stain, cracking, peeling and scratching. A clean damp cloth is the only method of cleaning required, and the wide range of light and dark colors is fade-proof. Samples of this new, wrinkle-free material are available from the manufacturers, L. E. Carpenter & Co., Inc., Empire State Bldg., New York 1, N. Y.

(*Continued on page 210*)

The Case for CAST IRON

In this scene from the Institute's new sound movie, "Permanent Investment," 3 girls are sitting on cast iron pipe, supported at either end. The pipe showed slight deflection but under 10 pounds water pressure the joint remained tight. This is a practical demonstration of the flexibility and rugged strength of Cast Iron Soil Pipe.

Rugged Metallic Strength

When you use **Cast Iron Soil Pipe** for stacks and house-to-sewer lines you build for permanence. You don't have to baby cast iron when you install it. No slot trenches, no fussy leveling up before you backfill. When cast iron is in, it's in to stay.

That's not always true of non-metallic pipe. One manufacturer, for example, recommends that his non-metallic pipe be laid in a slotted trench; that carefully selected stone-free backfill be used. He warns, too, that the product must not be stacked too high.

Cast Iron Soil Pipe can be stacked the way it's most convenient. It can't warp, it can't flatten out, it can't absorb moisture. Cast Iron has been doing such a reliable job for so many decades it is easy to take it for granted. But compare Cast Iron with other materials and you will realize there's no substitute for rugged metallic strength.

Only Cast Iron Soil Pipe gives you ALL these advantages

Rugged Metallic Strength

Zero Moisture Absorption

•

Permanent tightness of joints, with flexibility

•

Permitted for use under basement floor in all codes

CAST IRON SOIL PIPE INSTITUTE
Dept. AR-1, 1627 K Street, N.W., Washington 6, D. C.

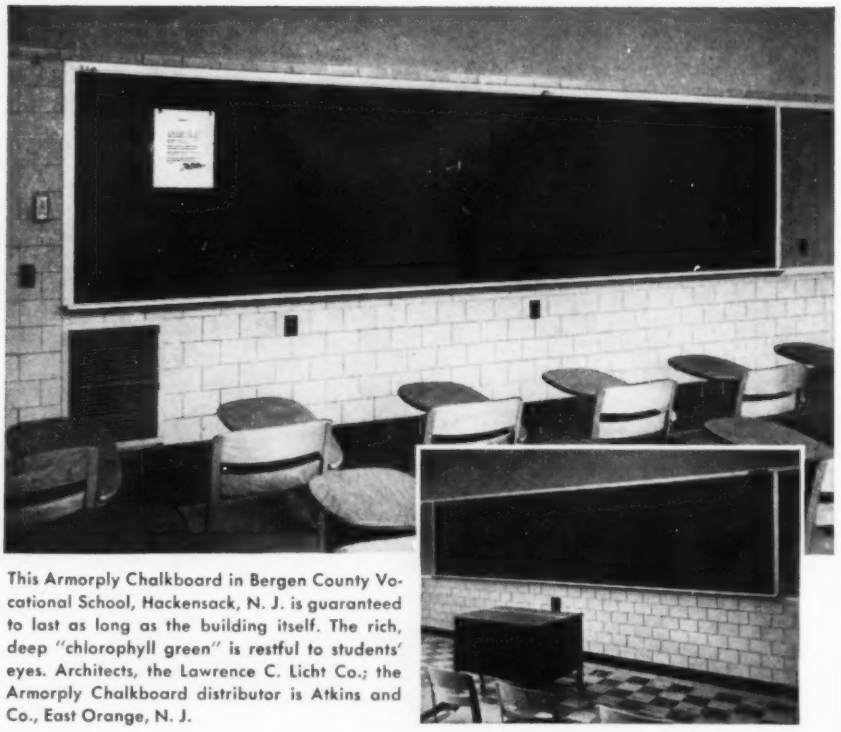
Please send me the literature I have checked

- ☐ **Information on your new sound movie "Permanent Investment"**
- ☐ **Copy of consumer folder: "Plumbing Drainage"**
- ☐ **Guide for Federal Specifications**

Name_____

Address_____

City_____ Zone____ State_____



This Armorply Chalkboard in Bergen County Vocational School, Hackensack, N. J. is guaranteed to last as long as the building itself. The rich, deep "chlorophyll green" is restful to students' eyes. Architects, the Lawrence C. Licht Co.; the Armorply Chalkboard distributor is Atkins and Co., East Orange, N. J.

In Bergen County Vocational School

CHALKBOARDS serve as BULLETIN BOARDS

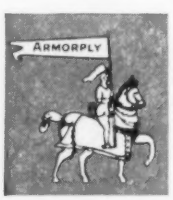
***And no thumbtacks are needed . . . for these chalkboards are* Armorply®**

How is it done? The secret is in the *steel* behind the deep, velvety "chlorophyll green" face of Armorply Chalkboard*. With a few small permanent magnets you can hang papers, posters or photographs. And never risk breaking fingernails on stubborn thumbtacks, either.

Armorply Chalkboard takes chalk marks smoothly and clearly, without squeak or scratch. And the deep, beautiful green surface—so easy on the eyes—is easily cleansed, does not become chalk-choked, and washes like a china dish.

Guaranteed to last as long as the building, Armorply Chalkboard will serve without ever buckling or warping. Even heavy impact, sharp concussion and severe temperature changes do not shatter or even crack it.

For complete information about chlorophyll green Armorply Chalkboard, write



UNITED STATES PLYWOOD CORPORATION

World's Largest Plywood Organization

55 West 44th Street, New York 36, N. Y.

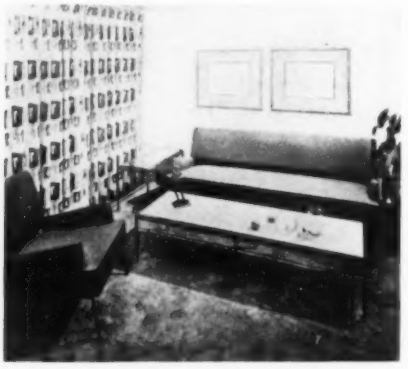
*Porcelain enamel surface produced by the Bettinger Corp.

PRODUCTS

(*Continued from page 204*)

Occasional Tables

Available in a variety of shapes and sizes, and with a wide choice of materials for the tops, the *Reilly-Wolff* line of occasional tables is priced exceptionally low and the tables are attractively suited to either formal or informal decor, depending upon the type of top selected.



Grouping shows two different sizes of tables, indicates "floating" tops

All of the tables rest on handsome black steel frames, and tops may be obtained in two marbles or in glass, walnut, birch or corktex — the marble being slightly higher in price than the latter materials. Reilly-Wolff Associates, Inc., 50 E. 34th St., New York 16, N. Y.

Glass Fiber for Acoustical Insulation

The first large-scale employment of glass fiber insulation for acoustical purposes has been made in the new Alcoa Building in Pittsburgh, according to the manufacturer of *Ultralite*, the material used in the installation. Previously, the material has been used on a large-scale basis solely as thermal insulation, but in the Alcoa Building 250,000 sq ft was used to soundproof the ceilings and the insides of air ducts. The insulation used in the ceilings was faced on one side with a vinyl spray coating and weighed only 2 lb per cu ft. Slightly heavier insulation was used in the duct system to deaden fan noises and other sounds. Here a ¾-in. blanket of the material was laid atop the aluminum

(*Continued on page 214*)

WW22
22-Gallon,
Water Cooled

Call your local Westinghouse Distributor for assistance when you're planning any type of building. Many architects specify Westinghouse because our Water Cooler Specialists are available at all times to help you with the complete job . . . from initial specifications to final construction. To get this assistance, check the yellow pages of your telephone directory.

Westinghouse makes a size and type for every need. Specifications, however, need not be altered by a change in models because *all* Westinghouse Water Coolers are compact—beautifully designed. Occupy a floor space of only 14" x 14".

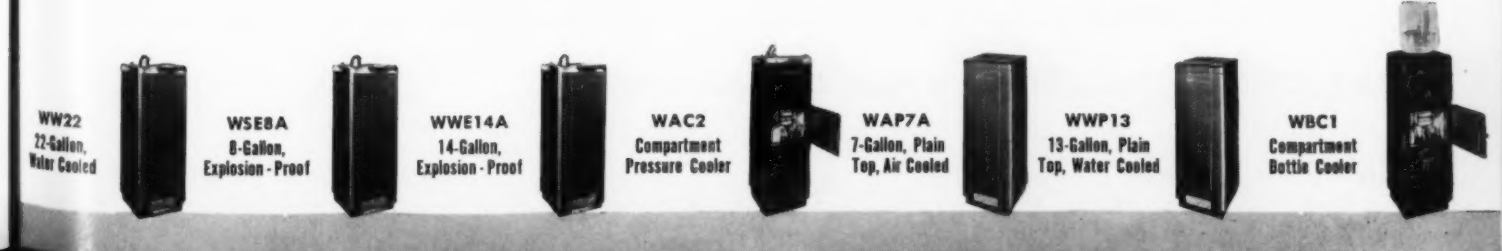
for all your needs. Westinghouse has a complete architect's kit—a file which contains large-sized, readable and accurate engineer's drawings. To obtain these kits for your own file, just drop a card to: Advertising Department, Westinghouse Electric Corporation, 653 Page Boulevard, Springfield 2, Massachusetts.

water cooler models ranging from 1 gallon to 22½ gallons are included in the Westinghouse line. One call answers all your water cooler problems. Or consult your Sweet's File, Section 28c/WE.

data on every type of Water Cooler is available . . . whether you plan on Bottle, Pressure, Compartment or Remote Types—whether your plans are for an industrial plant, military installation, institution or store, large or small. For any construction now on your drawing board or contemplated for the future, you'll find it profitable to specify Westinghouse, because . . .

YOU CAN BE SURE... IF IT'S Westinghouse

WESTINGHOUSE ELECTRIC CORPORATION
Electric Appliance Division • Springfield 2, Mass.



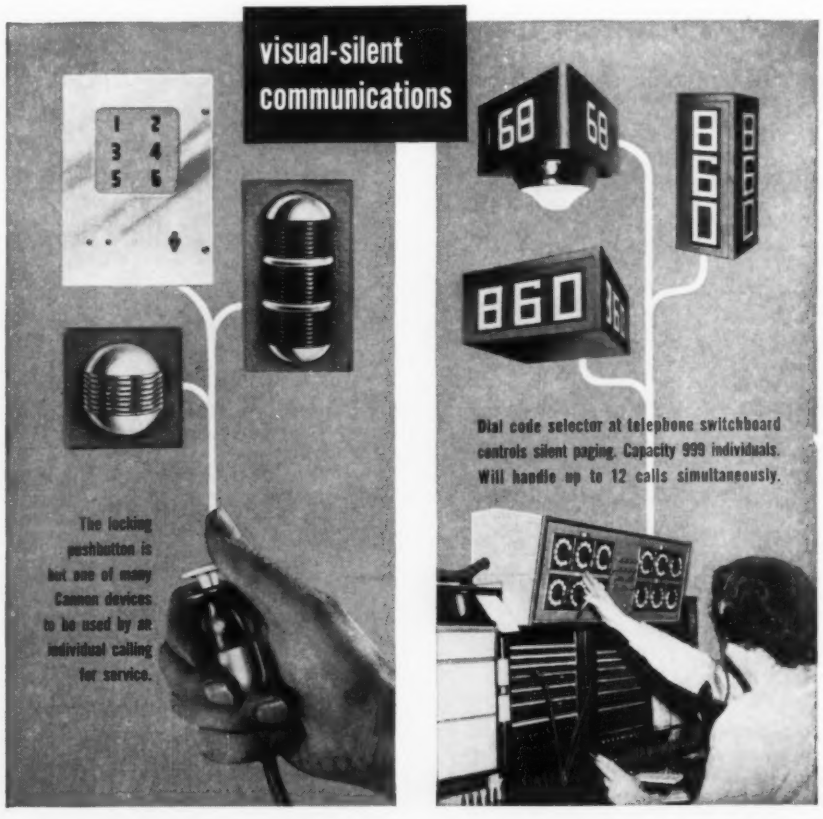
STROMBERG-CANNON

signal systems

VISUAL-SILENT COMMUNICATIONS for individual service or for general paging purposes have been highly developed by Cannon Electric over a 35-year period.

The Visual-Silent method may be used in conjunction with an audible system if desired. There are many areas where the Visual-Silent system is far superior, such as hospitals, restaurants and department stores or where the noise level is too high for practical operation of an audible system, for instance in machine shops, factories or other production areas.

The two basic approaches to Cannon Electric's Visual-Silent communications are illustrated here. (1) the individual requiring service (below, left) (2) the general paging of numerous individuals in large areas or in a group of buildings (right).


visual-silent
communications
The locking pushbutton is but one of many Cannon devices to be used by an individual calling for service.
Dial code selector at telephone switchboard controls silent paging. Capacity 999 individuals. Will handle up to 12 calls simultaneously.

The great diversification of the equipment and the variations of installations to serve many signaling requirements are described and illustrated in our new 32-page bulletin available on request.

STROMBERG TIME CORPORATION

SUBSIDIARY OF GENERAL TIME CORPORATION

109 LAFAYETTE ST. GT GENERAL TIME NEW YORK 13, N. Y.

TIME RECORDERS • TIME STAMPS • JOB RECORDERS • CLOCK SYSTEMS

PRODUCTS

(*Continued from page 210*)

radiant heating and cooling coils carried in the ceilings of the building. The insulative blanket absorbs sound passing through perforated holes in aluminum sheet panels which form the finished ceiling. Gustin-Bacon Mfg. Co., 210 W. 10th St., Kansas City, Mo.

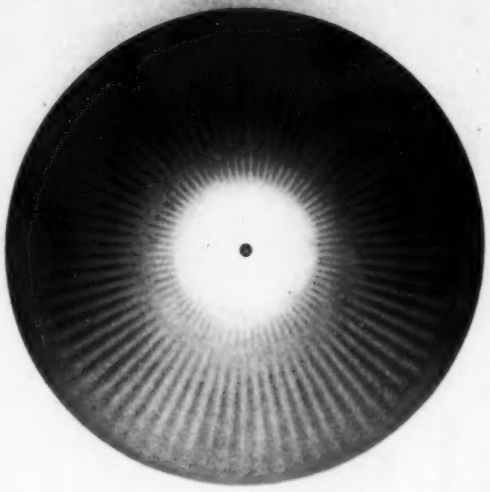
Automatic Vent Valve

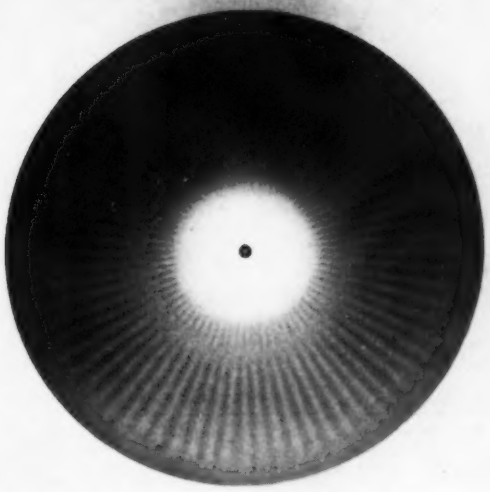
The *Hoffman No. 500* Universal Vent Valve reportedly provides automatic venting of air from both steam systems and hot and cold water systems. The valve can also be set for manual venting, and a twist of the device is all that

Valve can be set for either automatic or manual venting by a simple twist

is necessary to set it for any of the operations. Hygroscopic fiber discs automatically open to allow air to vent, and automatically close against steam or water. A selector screw controls the rate of venting. The valve operates at a maximum steam pressure of 15 lbs and maximum water pressure of 50 lbs. It can be taken apart for cleaning without draining the water system. Development of the new valve is expected to help simplify specification of such equipment, since a single vent can accommodate a wide range of heating systems. Hoffman Specialty Mfg. Corp., 1001 York St., Indianapolis 7, Ind.

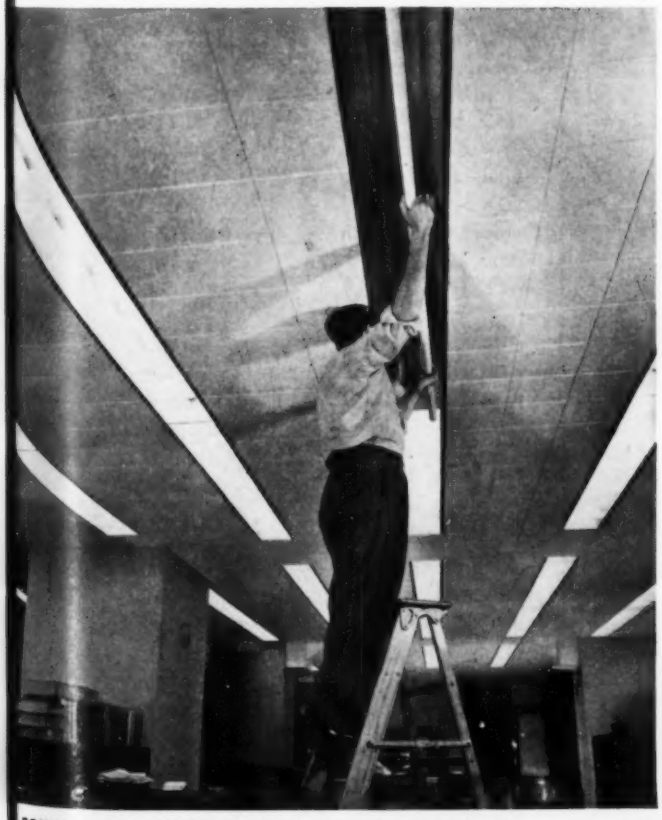
(*Continued on page 218*)



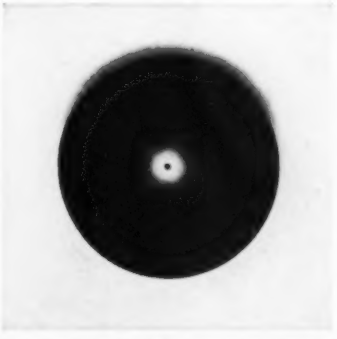


NO APPRECIABLE "STROBE" DIFFERENCE with either G-E series ballast (left) or "new design" lead-lag ballast (right). Both pictures were taken under identical conditions: disc spinning at exactly 100 rpm, illuminated by same two 96T12 lamps.

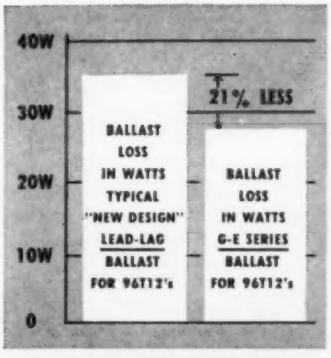
96T12 lamps? Here are the facts:

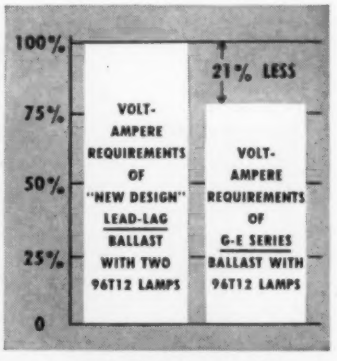


EQUAL MAINTENANCE TIME is taken in replacing lamps, whether series or lead-lag ballast is used. Time is spent in moving ladder and climbing up, not in few seconds taken to change lamps.



STATIONARY "STROBE" DISC, left, for testing 96T12 lamps is black with white lines, mounted on 100 rpm motor. Right: disc spinning at 100 rpm in daylight shows no lines—or zero "strobe."



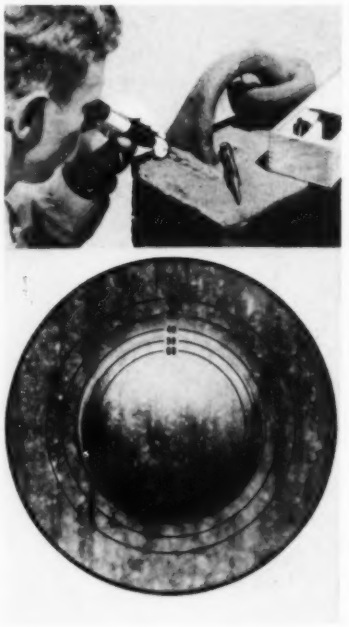


LESS POWER CONSUMPTION, inherent to G-E series ballast, is shown in left chart, above. Right: series ballast must be smaller, lighter, as weight and size are about proportional to volt-amperes.

PRODUCTS
(*Continued from page 214*)

Portable Tester For Steel Hardness

A new pocket-size hardness tester for determining the hardness of steel alloys and other metals in the range of from 25 to 65 Rockwell "C" scale reportedly can be used to test specimens in almost any place or position. The set includes a microball indentor, a measuring microscope and a standard hardness test block. In operation, an impact indentor drives a $\frac{1}{16}$-in. tungsten carbide ball a short distance into the sample to be tested. The diameter of the indentation is then measured with the reticulated microscope. The reticle indicates the hardness directly to an accuracy of $+1\frac{1}{2}$ points on the "C" scale. Since the device is of the direct-reading type, no further calculations are required. It is said to be particularly adapted for testing structural steel, tanks and large pipes in inaccessible positions, as well as large dies, punches and large welds. Pacific Transducer Corp., 11921 W. Pico Blvd., Los Angeles 64, Calif.



On-the-spot testing of steel hardness is made possible by new device

Fluorescent Lampholders

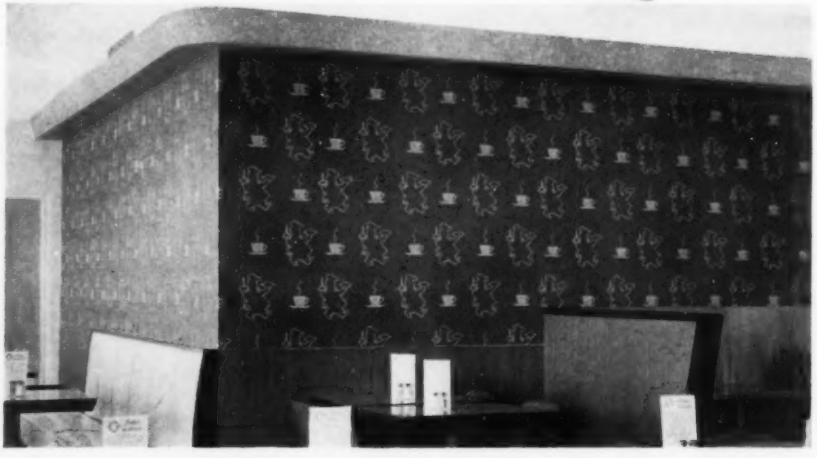
A complete line of turret-type lampholders for single and bi-pin fluorescent lamps in two and three-lamp combinations is now available from *Sylrania*. The line includes five styles of single-pin holders and three styles of bi-pin holders. Bi-pin holders feature a full-circle moulded cuff with four guide tracks to hold the spring contact and prevent binding and sticking when depressed to receive the lamp; two ear-type contacts which slide over the lamp pins and give two-point contact; coil springs directly in line with the axis of the lamp to provide smooth action against the plunger and eliminate vibration. Single-pin holders feature a spring device at the high voltage end to eliminate arcing and resistance due to vibration; contact strips at the low voltage end are eyeletted to the back plate and held in position by the plate and the plastic housing to prevent misalignment with the lamp pin; lead wires color coded to match usual ballast lead wires to clarify wiring connections and reduce possibility of error during fixture assembly. Sylvania Electric Products Inc., 500 Fifth Ave., New York, N. Y.

(*Continued on page 222*)

New Wall Trends *CUSTOM* Service:

YOUR ORIGINAL DESIGN HAND PRINTED ON DURABLE WALL CANVAS

Look what architects Van Sciever, Parcher, and Falk have done with Philadelphia's Linton Restaurants. They've taken Linton's trademark, reproduced it into a highly original wall design hand printed by Wall Trends on *Stylon* Wall Canvas.



Today you can bring *your* clients this same smart wall covering idea. They'll be delighted . . . not only with the beautiful result, but with *Stylon's* extra durability and ease of maintenance. It's canvas. Wash it time and time again — *Stylon stays beautiful* year after year after year!

Custom designs reproduced on fine wallpaper, if you prefer. Write today for complete details about this economical new service.

Wall Trends, inc.
Showroom: 509 Madison Avenue
New York 22, New York

MODEL 450 REMINGTON STUD DRIVER

—the ONLY powder-actuated fastening tool with ALL these advantages—

The Model 450 Remington Stud Driver sets up to 5 fastening studs per minute—a speed unmatched by other powder-actuated tools. Completely self-powered, this amazing tool fastens steel or wood structural pieces to concrete or steel surfaces in seconds. Its light weight—only 5½ pounds—makes it ideal for use overhead or in confined spaces. Check these other exclusive Remington Stud Driver features:

NO ACCESSORIES REQUIRED. No separate parts needed to control power, none required for loading—nothing to lose or break. Just a twist of the wrist opens the Model 450. Insert stud and power cartridge as a unit...close and you're ready! Whole job takes seconds.

DOUBLE-SAFE—REQUIRES *BOTH* HANDS FOR OPERATION. A separate safety lever must be depressed and *held* that way with one hand before and during squeezing of the trigger with the other hand. Safe, two-handed operation holds the tool steady. Two *additional* safety devices prevent operation except in proper fastening position.

MAXIMUM POWER RANGE. You get a wide choice of power in Remington cartridges. They're available in six different loads, each clearly marked by colored plastic heel caps. The 32 caliber cartridge gives you extra power in this medium-duty tool . . . helps you speed all types of fastening jobs.

ARROW-STRAIGHT DRIVING—BETTER GAS SEAL. New, long plastic heel cap on all Remington cartridges provides perfect gas seal . . . gives the Model 450 more power. Assures controlled, consistently straight driving.

FAST, POSITIVE EJECTION. Exclusive ejector snaps fired case out of tool instantly—no fumbling, no tools needed.

Test-proved to be the world's finest and speediest fastening system, the Model 450 Remington Stud Driver is made by the Remington Arms Company, Inc., *America's oldest and foremost sporting arms manufacturer.*

NEW, FREE BOOKLET shows you a hundred different ways the Model 450 Remington Stud Driver can speed *your* construction fastening. Packed with illustrations, it tells you where and how this tool can save time, reduce fatigue and cut costs. Send in the coupon below for your copy.

Listed & Approved by Underwriters' Laboratories, Inc.

"If It's Remington—It's Right!"

Remington

DUPONT

MAIL THIS COUPON TODAY

Industrial Sales Division, Dept. AR-1
Remington Arms Company, Inc.
939 Barnum Ave., Bridgeport 2, Connecticut

Please send me my *free* copy of the new booklet showing how I can cut my fastening costs.

*Name*_____

*Position*_____

*Firm*_____

*Address*_____

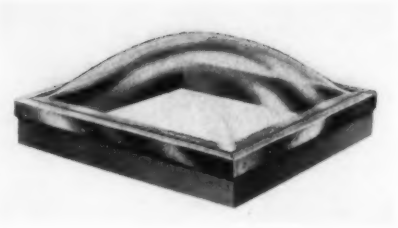
*City*_____ *State*_____

PRODUCTS
(*Continued from page 218*)

Plastic Skylight

The *Vanco Plexiglas Domelite*, a new plastic skylight for installations in homes, institutions, factories and other types of buildings, is available in either a clear colorless or white translucent glazing. The translucent plastic is reported to afford a soft, evenly-diffused daylight especially suited to classrooms, offices, kitchens and other locations where a glare-free light is desirable. It also helps insure privacy and uniformity of natural illumination. Since it reflects infra-red rays, it helps minimize extreme heat from direct sunlight.

The clear, colorless skylight is reported to provide good outdoor light for walled-in areas and is said to be particularly suited for rooms containing materials which might fade in direct sunlight, since it absorbs the ultra-violet rays which have a bleaching effect on such materials.

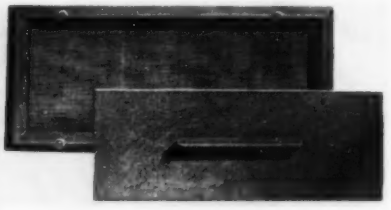


Plastic skylight is easy to install, provides efficient daylighting

The skylights are supplied with their own metal base frames in galvanized iron, aluminum or copper. They are guaranteed to be weather-tight without necessitating gaskets, according to the manufacturer. The frame can be installed by a single man, and needs only to be attached to the curb from the outside with screws. The skylights are available in square or rectangular sizes in dimensions from 20 by 20 in. to 64 by 94 in. They are individually packed, ready for installation. E. Van Noorden Co., 99 Magazine St., Boston, Mass.

Hurricane-Protective Aluminum Air Vents

A new *Frisby* vent designed to prevent water intake through ventilation openings in air spaces under roofs reportedly offers increased protection to homeowners in territories where hurricanes and severe rainstorms are common.



Vent has snap-on cover to provide quick efficient protection against water damage

The vent has a snap-on cover for instant sealing and eliminates the necessity for make-shift covers which must be nailed in place. When the covers are positioned over the vents, water reportedly cannot penetrate into the air space to cause resultant damage to interiors and furnishings. Both vent and cover are constructed of aluminum. The vent is made in standard sizes and can be used in both old homes and in new construction. Frisby Machine Co., 417 So. Main St., Freeport, L. I., N. Y.

(*Continued on page 226*)

WEATHER STRIPS FOR SLIDING DOORS
Open to All Outdoors
Yet . . . THESE SLIDING DOORS Are Fully
WEATHER-PROTECTED BY "ACCURATE"
Open or close in seconds. Gliding quietly, smoothly, almost without effort, on "Accurate" Weather Strip Saddles and Sheaves. Today, Mr. and Mrs. America want sliding doors. This is evidenced by the plans of leading Architects from Coast to Coast who not only provide for sliding doors, but are careful to specify "Accurate" fittings for best performance.
ACCURATE
For doors and windows of all types, "Accurate" Metal Weather Strip is unsurpassed. Write for working drawings, or if you prefer
ASK FOR ILLUSTRATED FOLDER
ACCURATE METAL WEATHER STRIP CO., Inc.
215 EAST 26th STREET, NEW YORK 10, N. Y.

PRODUCT NEWS from AMERICAN-Standard

A review of products in the news and important features worth remembering

AMERICAN-STANDARD KITCHEN CABINETS. The maker of the world's finest cast iron kitchen sinks now offers a *complete line* of all-steel kitchen cabinets . . . base, wall, utility and undersink cabinets. Convertibility feature permits changing shelf and drawer arrangements to meet individual storage needs. Finished in smooth, white, baked enamel.

REMOTAIRE ROOM CONDITIONER. This remote type unit for multi-room installations heats in winter, cools in summer, filters and circulates the air all year 'round! Individually controlled units use chilled or heated water supplied through a simple piping system from a central water chiller and heating plant . . . no unwieldy ductwork needed.

RADIANTRIM PANELS. For use with hot water or steam systems, these baseboard heating panels provide all the advantages of both convected and radiant heat. Taking the place of regular wood baseboards, they leave wall and floor space completely usable . . . deliver clean, uniform warmth, floor to ceiling. Ideal for use under picture windows.

SANISTAND FIXTURE. This wall-hung Sanistand urinal for women simplifies rest room cleaning, affords greater sanitation and convenience. Also available are a pedestal model of the Sanistand fixture and a tank model for installations where direct pressure valves cannot be used. All models come in white and a variety of colors.

AMERICAN-Standard

American Radiator & Standard Sanitary Corporation
Dept. AR-13
Pittsburgh 30, Pa.

Without obligation on my part, please send me your free literature on:

☐ Kitchen cabinets ☐ Radiantrim panels
☐ Remotaire ☐ Sanistand fixture

Name.....

Address.....

City.....State.....

American Radiator & Standard Sanitary Corporation, Dept. AR-13, Pittsburgh 30, Pa.

Serving home and industry

AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS

PRODUCTS
(*Continued from page 222*)

Troffer Hanger

The *Mitchell Uni-Hanger*, a universal clamping arrangement that makes it possible to clip lighting troffers directly to either T-bar or steel purlin ceiling members, is reported to cut troffer installation time by as much as 50 per cent over other methods. The hanger is designed for use with the manufacturer's *Uni-Flow* troffer line. In plaster and lath ceilings the hanger may be simply screwed into the wood ground, while with metal plaster frames a clamp is removed and the hanger is bolted to the frame through multi-punched holes which align with holes in the plaster frame member. When the hangers are in place, the troffer shell is attached, clamped onto self-aligning bolts in the hanger and leveled with a screwdriver adjustment. Using the new installation method, one man can install a troffer easily and, according to the manufacturer, in less than half the time needed to install conventional recessed fixtures. Mitchell Mfg. Co., 2525 N. Clybourn, Chicago, Ill.

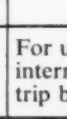
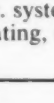
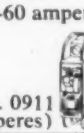
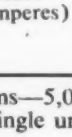
Clamping arrangement permits clipping of troffers to ceiling members or T bars

NOTICE

NEW FEDERAL SPECIFICATIONS

for PANELBOARDS; EQUIPPED WITH AUTOMATIC CIRCUIT BREAKERS

Amendment 2, Specification W-P-131a

SPECIFICATION		Heinemann Models within Specifications
CLASS A:		For use on a.c. systems—5,000 amperes interrupting rating, single unit, common trip breaker.
A-1	Single pole 15-100 amperes, 120 volts	No. 0411 (15-60 amperes)  No. 0911 (15-60 amperes)  No. 1163A (15-100 amperes)
A-2	Double pole 15-100 amperes, 120/240 volts	 No. 2263A (15-50 amperes)
CLASS C:		For use on a.c. and d.c. systems—5,000 amperes interrupting rating, single unit, common trip breaker.
C-1	Single pole 15-100 amperes, 125 volts d.c.; 120 volts a.c.	No. 1163J (15-20 amperes) 

PLUS ALL THE ADVANTAGES OF THE FULLY MAGNETIC OPERATING PRINCIPLE

Heinemann Circuit Breakers operate on an electro-magnetic principle, employ no thermal elements. Thus, they are unaffected by heat, do not require de-rating or the extra engineering work de-rating necessitates. Heinemann Circuit Breakers may be located anywhere regardless of ambient temperature, and can be reset instantly, without waiting when fault is corrected.

NEW LITERATURE: Send for your copy of "What You Should Know About Circuit Breakers."

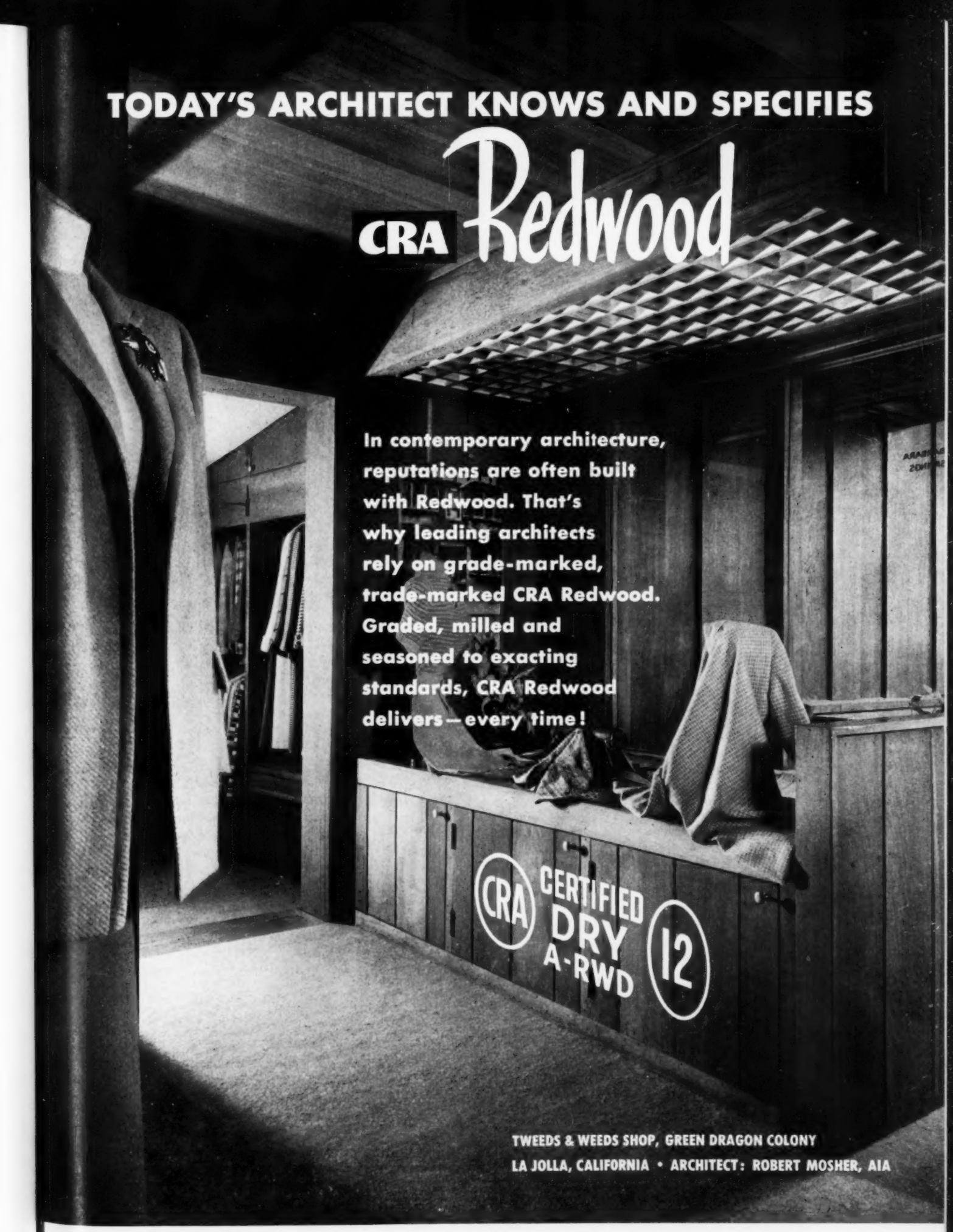
HEINEMANN

ELECTRIC COMPANY
115 Plum Street
Trenton 2, N. J.

Adjustable Fittings For Display Hardware

Adapt-A-Wall is a system of adjustable hardware and fittings for flexible merchandise display and is reported to permit every possible variation in shelving and display. The system includes slotted standards, knife-edge brackets for wood or glass shelves, cornice brackets, hang-rail sockets, crossbars and various merchandise displayers. All of these can reportedly be attached or detached instantly for easy convertibility to meet changing merchandising requirements. The hardware is designed for heavy duty service, and in tests, a single pair of brackets has held shelves loaded with from 650 to over 1400 lbs. Despite the heavy construction, however, the fittings are said to be neither bulky nor cumbersome — the standard, for example, has a face less than 1 in. wide — and the entire line is described as neat and inconspicuous. Garden City Plating & Mfg. Co., Dept. P, 1750 N. Ashland Ave., Chicago 22, Ill.

Steelbuilt, Inc. has changed the name of its dual-glazing system (Reported in ARCHITECTURAL RECORD, December 1951, p. 246) from *Thermoglaze* to *Dualbilt*. The change was made to avoid possible confusion with *Thermopane*, manufactured by Libbey-Owens-Ford Glass Co.


TODAY'S ARCHITECT KNOWS AND SPECIFIES
CRA Redwood
In contemporary architecture, reputations are often built with Redwood. That's why leading architects rely on grade-marked, trade-marked CRA Redwood. Graded, milled and seasoned to exacting standards, CRA Redwood delivers—every time!
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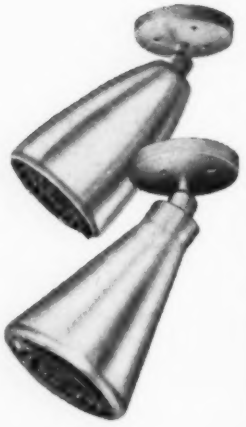
BIG NEWS ABOUT SWIVELITE

1 NEW STYLE IN HOODS. Now you have a choice of Swivelite Torpedo Hood or the brand new Swivelite Modern Swedish Hood. Both have a permanent deluxe satin aluminum finish . . . air-flow ventilation for longest bulb life. And because of Swivelite's "adapt-a-unit" principle, all basic units of these ultra smart designs are interchangeable and enable you to arrange new lighting effects more easily and at least cost.



2 A NEW FOCALITE. Now you've your pick of Amplex Focalites, too! Besides the amazingly popular Focalite B-5 for Par 38 reflector lamps, there's now Focalite B-7 for R-40 medium base reflector lamps. Each of these units is the display man's handiest device for use in window displays, shadow boxes, show cases and countless other accenting jobs. They can be positioned instantly to any angle. They're compact, attractive . . . made of one-piece aluminum . . . available with a permanent satin silvertone finish and in seven new decorator colors.

Order Swivelite products from your Amplex distributor or ask us about these two big new Swivelite features.

Amplex Corporation, Dept. D-1, 111 Water St., Brooklyn 1, N. Y.

AMPLEX

Sealed-Beam Reflector Lamps, Colorbeam Lamps, Spotlites and Floodlites, Industrial Infra-Red Heat Lamps, Vibration and Rough Service Lamps, Street Lighting Lamps, Traffic Signal Lamps, Incandescent Lamps, Fluorescent Tubes, Display Accessories.

LITERATURE

(*Continued from page 176*)

Metal Products

(1) VMP Mobilwalls 21a-Vi; (2) VMP Steel Doors and Frames 15a-Vi; (3) VMP Library Bookstack Equipment 22f-Vi. These three booklets describe and illustrate some of the diversified products made by the manufacturer. The first deals with a line of movable steel partitions in flush, semi-flush, paneled and industrial types, together with railings, screens, wainscot and an acoustical ceiling system. The second booklet shows steel door and frame units, including a sliding by-pass door in a package unit. The library equipment booklet includes information on shelves, freestanding stacks, carrels, seminar study rooms, book conveyors, a vertical file system and stack accessories. All three booklets are illustrated with photographs and detail drawings and include dimensions, specifications and data tables. Typical installations are also listed. Each 8 pp., illus. Virginia Metal Products Corp., 1112 First National Bank Bldg., Pittsburgh, Pa.*

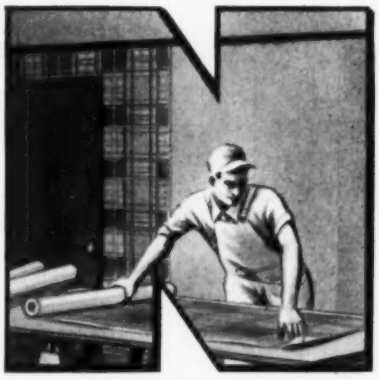
Asphalt Tile for Wall Covering

Kentile as a Wall Covering. Booklet describes how the manufacturer's floor covering material has now been made useful as a wall covering in schools, theaters, institutional and commercial buildings. Photographs of actual installations in various types of buildings are interspersed throughout the booklet, and technical aspects of installing Kentile on walls are also included. Architects' specifications are given along with a chart on light reflectance for various color groupings. 8 pp., illus. Kentile, Inc., 58 Second Ave., Brooklyn 15, N. Y.*

Viscous Liquid for Protective Coatings

Thiokol Liquid Polymer LP-2. Brochure lists features and applications for the manufacturer's viscous liquid which converts to a solvent-resistant rubber at room temperature. Information on physical properties, compounding and curing is included. 4 pp., illus. Thiokol Corp., Trenton 7, N. J.

(*Continued on page 234*)



repeat

performances with

. . . Roddiscraft Hardwood Plywood Paneling

A RODDISCRAFT finished wall is a single performance — once installed, it's there to stay — little or no maintenance required — beauty that grows with age.

Compare the economy of single performance paneling with the periodic repeat performances required with other types of walls. Painting and papering every few years soon add up to far more than the original cost of plywood paneling.

Yes — it's the elimination of repeat performances that today make the one job installation of a plywood wall the best buy for economy, beauty and utility — and a Roddiscraft wall will last as long as the building.

Roddiscraft hardwood plywood is a craftsman's product — quality built from veneer selection to final sanding. Available in a wide variety of domestic and foreign woods.

Be sure of the best — specify Roddiscraft —

NATIONWIDE Roddiscraft WAREHOUSE SERVICE

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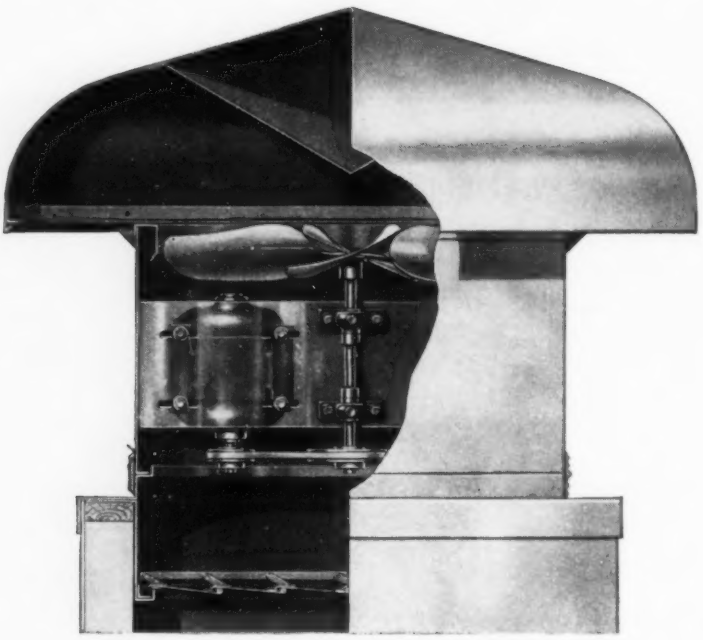
Roddiscraft

RODDIS PLYWOOD CORPORATION
Marshfield, Wisconsin

HIGH EFFICIENCY
LARGE CAPACITY
QUIET OPERATION
INCONSPICUOUS IN USE



THE NEW
BURT LOW TYPE
FAN VENTILATOR

This versatile Burt Ventilator is modern in engineering and design. Its quiet power-driven fan performs with equal efficiency to exhaust heat, smoke and fumes, or to supply fresh air. Low in height, the Burt Low Type meets architectural demands for an inconspicuous roof ventilator yet provides high efficiency and high capacity. Easy to install and service, the Low Type is available with fans from 12″ to 60″ in diameter—direct motor driven or V-belt drive. See Sweet's for further data or write Burt for Bulletin SPV-16.

FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company

48 East South Street · Akron 11, Ohio

LITERATURE

(*Continued from page 230*)

Sheet Metal Specifications

Architectural Sheet Metal Work. Designed to help architects secure more uniform bids on sheet metal work, this booklet lists items normally furnished by sheet metal contractors and recognized as being within the jurisdiction of sheet metal workers. A list of reference publications is also included. 8 pp. Sheet Metal Contractors' National Association, 170 Division St., Elgin, Ill.

Filters for Liquids

Staynew Liquid Filters, Bulletin D-IL. Bulletin describes manufacturer's filters for oils, water, chemicals, coolants and other liquids. Construction is illustrated with photographs and a cutaway drawing. Photographs of various filtering media are also included, together with general specifications and a table of sizes. A data sheet which may be filled in by interested prospects with particular problems is bound into the booklet. 12 pp., illus. Dollinger Corp., 11 Centre Park, Rochester 3, N. Y.

Fabricating Rigid-Tex Metal

Rigid-Tex Metal Can Be Fabricated. Brochure tells how Rigid-Tex metal can be worked in welding, soldering, riveting, stamping, forming, drawing and lock seaming. Patterns and finishes are shown, and advantages of its use are given. A list of produc s using this material is included — from ash trays to skyscraper curtain walls. 6 pp., illus. Rigidized Metals Corporation, 658 Ohio St., Buffalo 3, N. Y.

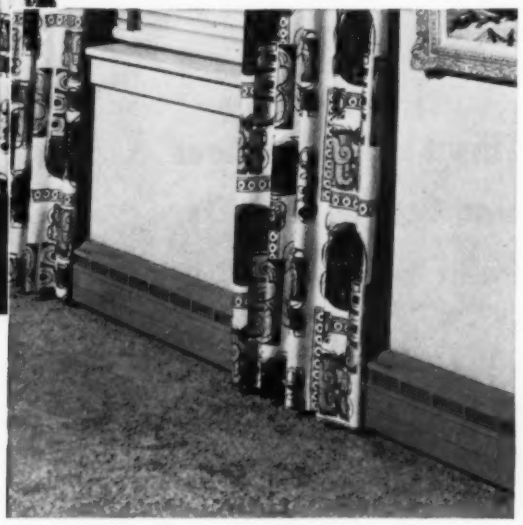
Plywoods and Doors

Malarkey Plywoods and Doors. Most of this booklet is devoted to the many types of the manufacturer's plywood. The physical properties of the plywood are described, and much text and illustrated material cover the various uses of the different plywoods. Suggested finishing systems and specifications conclude the first section. The various door models and their features and specifications complete the booklet. 60 pp., illus. M and M Wood Working Co., 2301 N. Columbia Blvd., Portland 17, Ore.

(*Continued on page 238*)

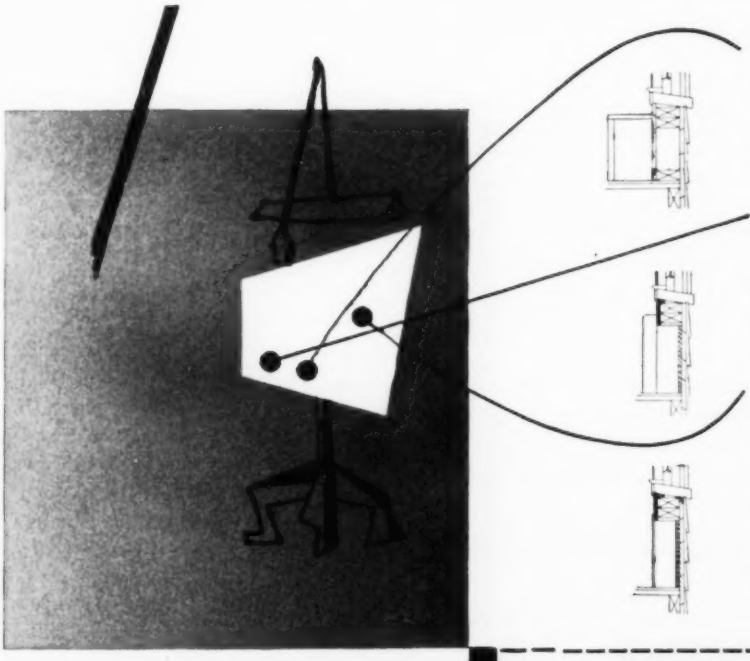
Left: Showing how Fedders Convector-Radiator conforms to modern decor of smart living room.

Below: Arrangement of furniture, draperies and wall-to-wall carpeting presents no problem when Fedders non-streak Baseboard Radiators are specified.



Why ARCHITECTS SPECIFY

FEDDERS CONVECTOR-RADIATORS

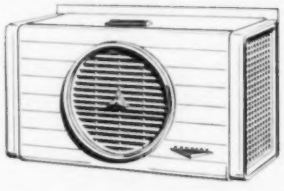


beauty . . . begins on the drafting board and ends up in the home. Fedders Convector and Baseboard Radiators are being written into the specifications of modern homes because of their efficiency and smart decor.

economy . . . The profession and the trade are discovering that they no longer think of steam or hot water heat as expensive. Fedders radiation combines uniform floor-to-ceiling comfort, compact size, and easy installation.

standard specifications . . . They are made in a wide range of sizes and types and can be used in combination to provide a well balanced system.

Fedders catalogs are working tools for men who design and install heating systems. Information is complete and accurate. Write for your copies.



For cool, cool comfort specify Fedders Room Air Conditioners.

FEDDERS-QUIGAN CORPORATION
57 TONAWANDA STREET, DEPT. AR-1, BUFFALO 7, N. Y.

Please send me information on:

☐ Fedders Baseboard and Convector-Radiators
☐ Fedders Room Air Conditioners

*Name*_____

*Street*_____

*City*_____ *State*_____

This Shower Cabinet was Caught with its Paint Down...

and the man who specified, sold and installed it is seriously embarrassed. Now, *only eighteen months after installation*, it's a rusty hulk. A dangerous, unsanitary eyesore that no longer is fit for the purpose intended.

Sooner or later this *always* happens to black steel cabinets, those called "bonderized" or those that merely get a temporary "flash" coating of zinc. They cannot stand up in service because they are not protected against rust . . . every nick or scratch becomes a rust spot.

Specifying or installing a sub-standard shower cabinet is as dangerous a gamble as installing *black iron pipe and valves in a water system*. No reputable contractor would knowingly do either. Assuming that the piping and installation cost is double the cost of the shower, it is easy to see that slight savings on the shower cost are unimportant in the total sale . . . and a bad gamble when you may be requested to replace a sub-standard shower.

DON'T BE FOOLED—"bonderized" alone is not enough . . . for your own protection, insist that the Shower Cabinets you sell and install have walls of bonderized, galvanized steel. *There is no substitute!* **Unlike most low-priced Shower Cabinets—even Fiat's *lowest* priced cabinets meet these minimum standards.**

Minimum standards for satisfactory shower cabinet service:

1. **WALLS of bonderized, galvanized steel of adequate thickness finished with an alkali-resistant two-coat synthetic enamel baked-on.**
2. **RECEPTOR must provide an absolute rust-proofed surface such as pre-cast concrete, terrazzo or rigid porcelain enameled steel.**
3. **CABINET engineered to be permanently leakproof, sturdy and precision built to assure quick and easy assembly.**
4. **BRASS goods of recognized high quality manufacture with quality finish.**

FIAT METAL MANUFACTURING COMPANY

THREE COMPLETE PLANTS—ECONOMY • CONVENIENCE • SERVICE

Long Island City 1, New York

Franklin Park, Ill. (Chicago suburb)

Los Angeles 63, California

In Canada: Fiat Products are made by Porcelain and Metal Products, Ltd., Orillia, Ontario

LITERATURE

(*Continued from page 234*)

Acoustical Carpet

Bigelow Cushionlok. Booklet describes the manufacturer's new acoustical carpeting, lists features, advantages, colors, typical installations. 11 pp., illus. Bigelow-Sanford Carpet Co., Inc., 140 Madison Ave., New York 16, N. Y.

Form and Reinforcement For Concrete Floors

Pittsburgh Steellex Floor Lath, Booklet DS-133. Booklet gives description and specifications for the manufacturer's combination form and reinforcement for concrete floors and roofs over steel or concrete joist construction. Test data, tables of safe loads and drawings showing installation procedures are included. 12 pp., illus. Pittsburgh Steel Products Co., Subsidiary Pittsburgh Steel Co., 1451 Grant Bldg., Pittsburgh 30, Pa.*

LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

Ted T. Berry, Student, 930 No. 10th St., Elwood, Ind.

Jos. Donofrio & Sons, Inc., Contractors and Builders, 88 Main St., Rockaway, N. J.

Glenn G. Frazier, Architect, 102 So. Bennett Ave., Urbana, Ill.

Alan J. Frost, Draftsman, 36 E. Parade, Eastwood, N.S. Wales, Australia.

Seena Hamilton, Senior Editor, *Apartment Life*, 319 E. 44th St., New York 17, N. Y. (desires publications of interest to apartment dwellers).

Raymond A. Jacobs, Student, 1267 Bryden Rd., Columbus 5, Ohio.

Koslen & Ross, Architects, Cedar-Lee Bldg., 2163 Lee Rd., Cleveland Heights 18, Ohio.

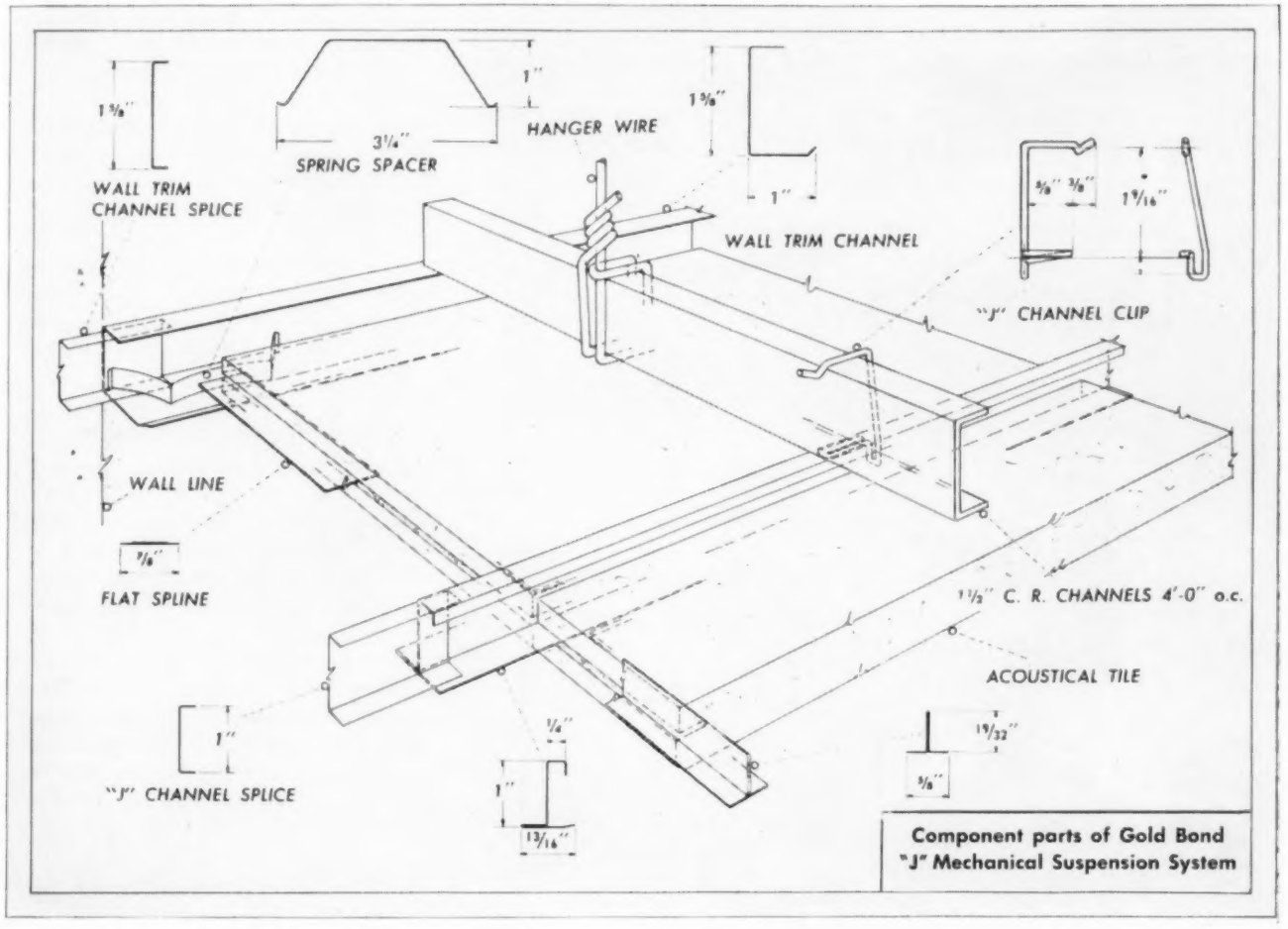
Monteiro, Wigderowitz & Monteiro, Ltda., Architects, Rua 7 de Abril, 252-10° Andar, São Paulo, Brazil.

J. Sanford Shanley, Architect, 152 E. 36th St., New York 16, N. Y.

B. Robert Swartburg, Architect, 126 24th St., Miami Beach, Fla.

Kozuhira Yoshida, Student, 979 4. Chrome Simoneguro, Meguro-ku, Tokyo, Japan.

Announcing THE NEW GOLD BOND "J" MECHANICAL SUSPENSION SYSTEM



Component parts of Gold Bond "J" Mechanical Suspension System

Gold Bond's new system for mechanically suspending acoustical ceilings makes jobs easier and faster: it accommodates any acoustical tile under most circumstances; and it permits economical maintenance.

Gold Bond's "J" System gives you these money-saving advantages:

1. Only three basic parts make up the system.
2. Builds complete ceilings.
3. Gives lowest per square foot cost.
4. Recessed light troffers can be installed.
5. Gypsum Wallboard and asbestos-cement board bases may be used.
6. Permits stepped ceiling assemblies.
7. Allows quick replacement of damaged tile.

Besides construction advantages, you and your client receive additional benefits from the "J" System. It is covered by National Gypsum Company's policy of undivided responsibility...Gold Bond supplies the system, gypsum wallboard and acoustical materials, and qualified Gold Bond Acoustical Applicators install the complete ceiling.

Before you specify any mechanical suspension system, write our Architectural Department for complete information and a set of drawings which show details of Gold Bond's new "J" Mechanical Suspension System.

NATIONAL GYPSUM COMPANY • BUFFALO 2, N. Y.

Lath, Plaster, Lime, Sheathing, Gypsum Roof Decks, Wall Paint, Textures, Rock Wool Insulation, Metal Lath, Sound Control Products, Fireproof Wallboards, and Decorative Insulation Boards.

You'll build or remodel better with **Gold Bond**

THE RECORD REPORTS

WASHINGTON

(*Continued from page 38*)

rency Committee in the new Congress, to a group of midwest homebuilders: "You will find, I am sure, a new spirit of cooperation on the part of the federal government, supplementing but never supplanting your responsibility to do the job. . . . We will remove the fear of socialism and give a positive guarantee that this cooperation on the part of government will never be interpreted as carrying with it the authority to put government in business, or in competition with private enterprise."

Beyond assurances of a new "climate" there were mostly questions. Some Republicans were talking about a complete overhaul of the government housing agency setup; others, including Mr. Wolcott, favored revamping the Federal Housing Administration and the Federal National Mortgage Association but keeping them intact.

Will HHFA Be Curtailed?

As for the Housing and Home Finance Agency, Administrator Raymond Foley planned to stay around long enough to initiate his successor (Charles Taft, Senator Taft's brother, and Allen E. Brockbank, president of the National Association of Home Builders, were among the armchair favorites for the post) but nobody knew just what kind of agency that successor might be heading. Home-builders have long chafed at the strong control over such subsidiary agencies as FHA, the Home Loan Bank Board and the Public Housing Administration exercised by HHFA as the independent agency set up by the Housing Act of 1949 to correlate government activities in the housing field.

No Cheer for Public Housers

Public housing prospects were not bright. The program set up in the 1949 Housing Act — 135,000 units per year for an 810,000-unit total in six years — has never been matched with the requisite funds by Congress in any single year since. The ceiling for the current fiscal year was set at 35,000 units; and PHA officials did not expect the Republican-controlled 83rd Congress to be more ambitious. N.A.H.B. is preparing a major campaign to prove that private builders can do a better job for the public.

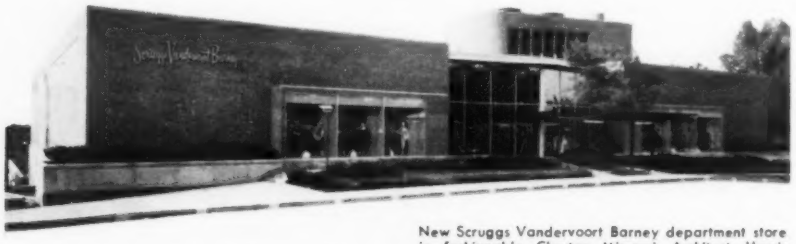
Staff Architects, Engineers Sought for VA Hospital Work

Veterans Administration again has sounded an urgent call for all types of architects and engineers to work on its big hospital construction, conversion and modernization program.

Most immediate of VA needs was for architects and engineers for journeyman grades. Yearly entrance salaries: color designer (grade 7), $4205; architects and engineers (grade 9), $5060; architects, engineers, construction superintendents and project managers (grade 11), $5940; and estimators and engineers (grade 12), $7040.

Vacancies were listed for architects, estimators, structural engineers, mechanical engineers, electrical engineers, civil engineers (sanitary), architectural engineers (specifications), landscape design architects, color designers, construction superintendents, project managers and boiler and mechanical inspectors.

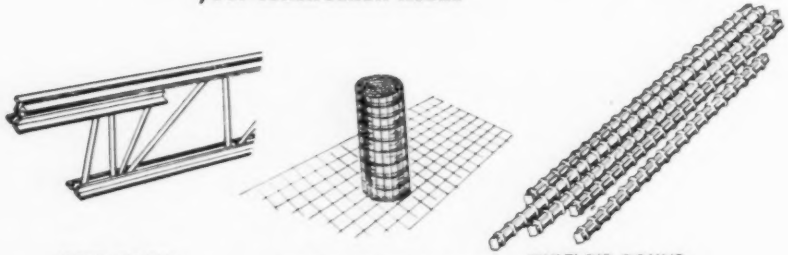
(*Continued on page 248*)



New Scruggs Vandervoort Barney department store in fashionable Clayton, Missouri. Architect: Harris Armstrong. Consulting Engineer: Neal J. Campbell. Contractor: Gamble Construction Co.

QUALITY CONSTRUCTION *begins with...*

Quality controlled from open hearth to finished product in the modern Laclede Mills, these construction steels offer dependability of quality for your construction needs



STEEL JOISTS
For strong . . . lightweight . . . economical construction. Spans to 40 feet.

WELDED WIRE FABRIC
Cold drawn, welded automatically . . . in rolls or sheets.

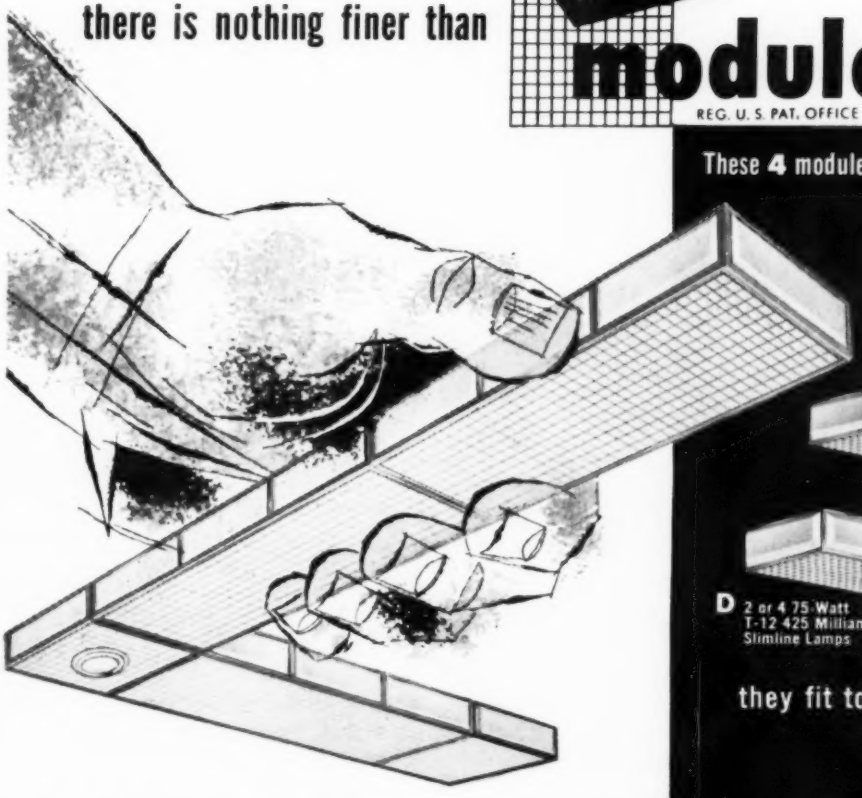
MULTI-RIB ROUND REINFORCING BARS
With Laclede improved design for maximum anchorage . . . and numbered to meet latest ASTM A305 Specifications.

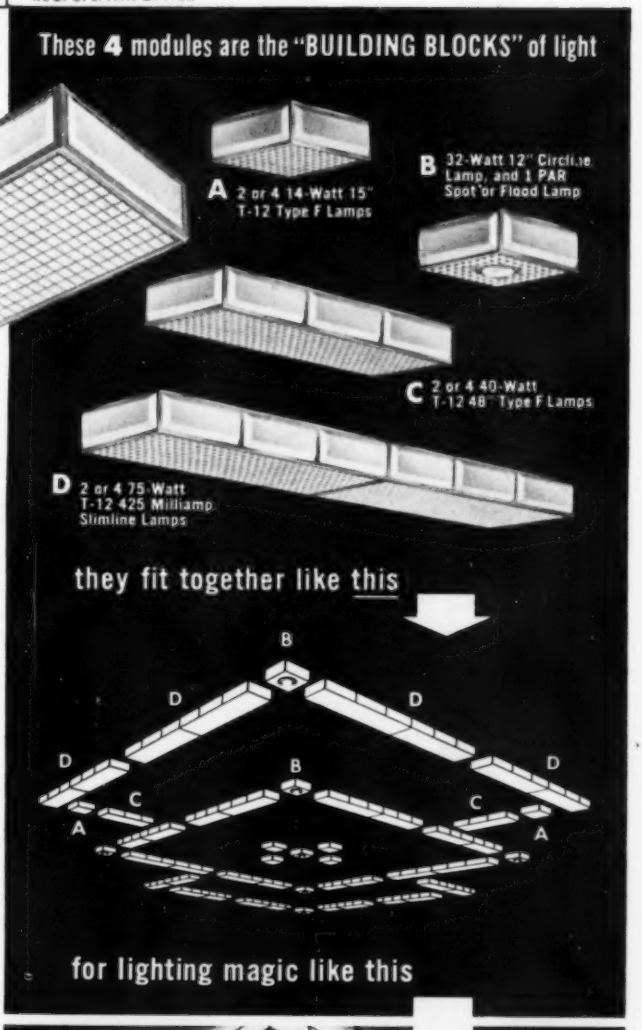
Other Laclede quality construction steels: corrugated centering accessories • spirals • pipe and conduit.

LACLEDE
Producers of Construction Steel
LACLEDE STEEL COMPANY
St. Louis, Mo.

Where the installation calls for exceptional commercial lighting

there is nothing finer than **MITCHELL module** REG. U. S. PAT. OFFICE

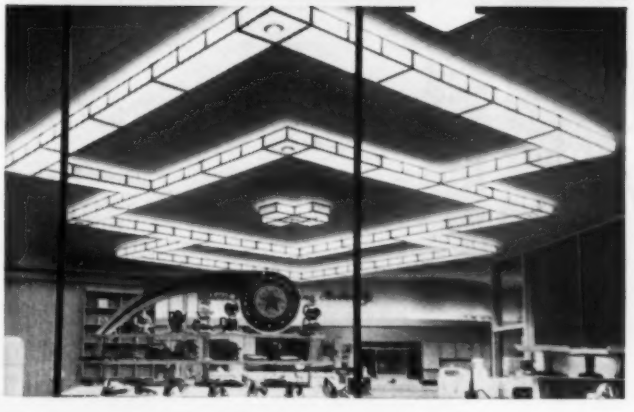



These 4 modules are the "BUILDING BLOCKS" of light
A 2 or 4 14-Watt 15" T-12 Type F Lamps
B 32-Watt 12" Circline Lamp, and 1 PAR Spot or Flood Lamp
C 2 or 4 40-Watt T-12 48" Type F Lamps
D 2 or 4 75-Watt T-12 425 Milliamp Slimline Lamps
they fit together like this
B
D
D
D
B
D
C
C
A
A
for lighting magic like this

custom-fits *any commercial interior—at no more than the cost of ordinary fixtures*

50,000 DIFFERENT PATTERNS POSSIBLE
20% MORE LIGHT

When you specify MITCHELL MODULE, you specify *the best* in ultra-modern commercial lighting. It's a revelation: with just 4 simple, low-cost "building blocks of light", MITCHELL MODULE offers *unlimited* lighting patterns to custom-fit any commercial interior. MODULE'S exclusive plastic louver passes 20% MORE LIGHT. Units fit together simply (mechanically and electrically) for quick, low-cost installation, and for easy rearrangement of patterns to suit changing needs. MODULE mixes all light sources smoothly in one harmonious, beautiful system—puts the light exactly where it's needed. No ordinary fixtures can match MODULE—the *only* lighting that *custom-fits* with standard *low-cost* units.



Only MITCHELL makes MODULE

There's nothing in lighting easier to specify, easier to sell than MODULE. It custom-fits and "grows" with every lighting need; it delivers MORE LIGHT; it stays beautiful, new; it costs no more than ordinary fixtures. It's America's No. 1 Commercial Lighting with exclusive advantages for architects, wholesalers, contractors, utility consultants and users. You'll want the facts about MODULE—write today for full descriptive catalogs.

MITCHELL MANUFACTURING COMPANY, Dept. 4-A
2525 North Clybourn Avenue, Chicago 14, Illinois
***In Canada:* Mitchell Mfg. Co., Ltd., 19 Waterman Ave., Toronto**

WASHINGTON

(*Continued from page 244*)

Building Shortage Worse at Secondary Level, N.E.A. Says

Growing difficulties at the secondary school level and few signs of improvement at the elementary level are reported by the National Education Association in its 11th annual estimate of school conditions throughout the nation.

Current shortages are compared with those indicated in the 1951 survey in the following table:

NUMBER OF STATES IN WHICH BUILDING SHORTAGE IS

Type of School	Very small		Considerable		Very large	
	1951	1952	1951	1952	1951	1952
Rural						
Elementary	18	16	24	24	6	6
Secondary	18	18	27	25	3	5
Urban						
Elementary	1	2	27	25	20	21
Secondary	12	20	33	21	3	7

Although population experts have estimated elementary enrollments should reach their peak in 1956–57 and secondary enrollments in 1959–60, N.E.A. suggests that these estimates of several years ago may have been too low and suggests that peak enrollments may not be reached till well into the 1960s.

"The total number of children, combined with population mobility, has produced especially acute school housing problems in new communities, suburban areas near metropolitan centers, and in states on the rim of continental United States," the report points out.

Total school enrollments have increased 3,773,183 between the 1946–47 and 1952–53 school years. Elementary school enrollments have gone from 17,299,565 to 20,220,217; secondary, from 7,212,147 to 7,312,837.

Air Force Asks Civilian Aid In Bid for Building Economy

The Air Force has decided to investigate itself.

Hard on the heels of Congressional probes of air base construction in North Africa and France comes the announcement of two Air Force projects:

1) A joint civilian and military facilities review committee known as the Projects Installations Committee to conduct an over-all study of Air Force installations here and abroad.

2) A joint-venture contract for detailed research and review work on Air Force installations in the U. S. with the architect-engineer firms of De Leuw, Cather and Company, Chicago, and the J. E. Griner Company, Baltimore.

Wide Criticisms Invited

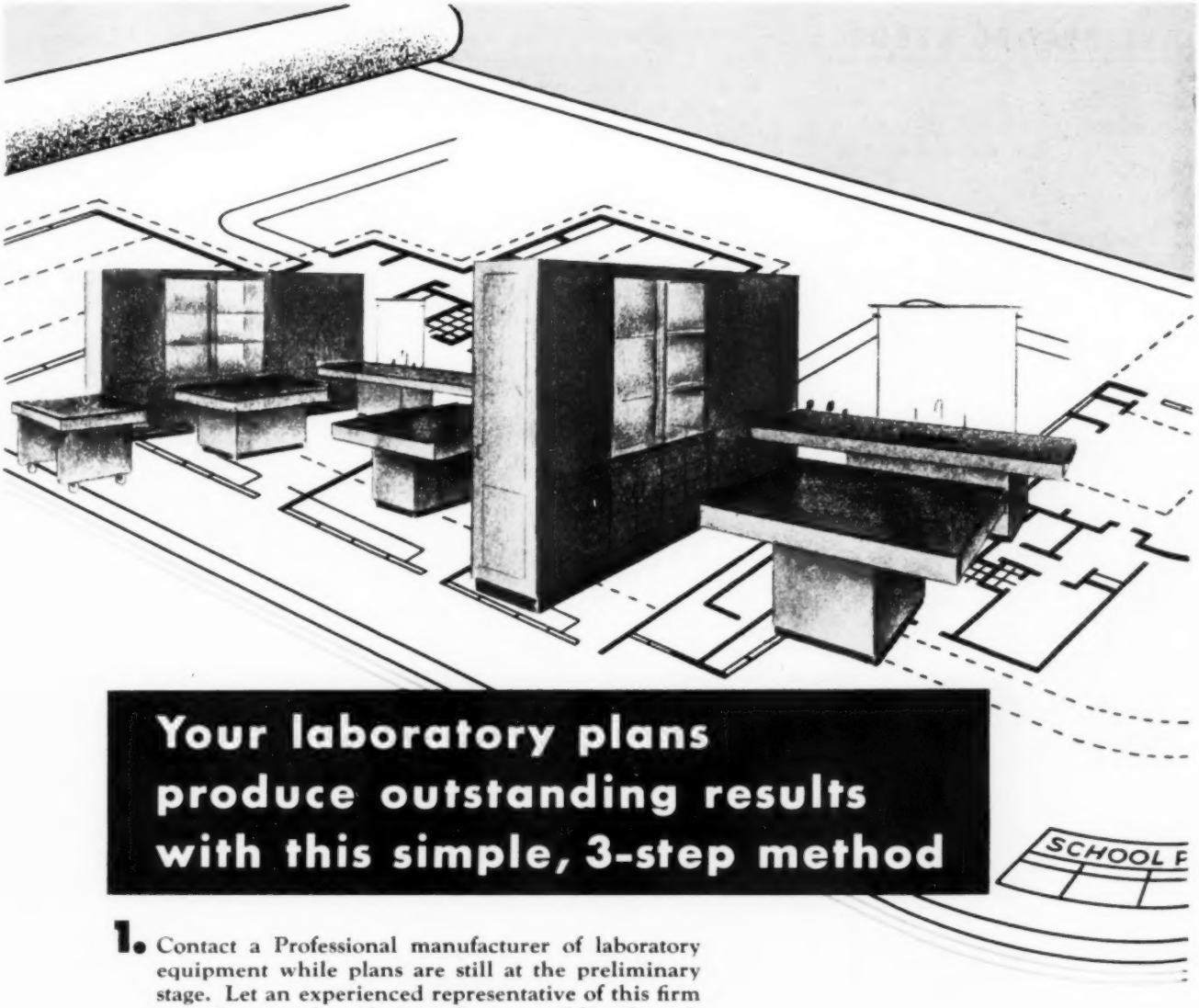
The joint-venture group will report and make recommendations to the joint committee, which will in turn recommend to the Secretary of the Air Force measures aimed at maximum efficiency and economy in air base construction. The committee has been invited to challenge all criteria, plans, specifications, program and procedures connected with the Air Force construction program.

Architects on Committee

Members of the committee include Max Abramovitz of Harrison & Abramovitz, Architects, New York; George H. Miehls, president of Albert Kahn Associates, Architects and Engineers, Detroit; and Albert L. Baum Sr. of Janos, Baum and Bolles, Consulting Mechanical Engineers, New York.

(*Continued on page 252*)

*Imported CASTELL lays it on the LINE!
Is this your idea, too, of the perfect drawing pencil?
The Masters who conceive and create America's greatest architectural, engineering and industrial achievements agree that Imported CASTELL is the standard of the world, because—
• CASTELL lead is smoother—has no hard spots.
• CASTELL is graphite-saturated for greater adhesion.
• CASTELL lays down a more opaque line for better blue and white prints.
• CASTELL points are stronger—less breaking under pressure.
• CASTELL is non-bleeding—gives sharp, clean prints after hundreds of trips through the reproducing machine.
• Although CASTELL is a premium pencil, it is more economical in the long run, giving 25% to 33⅓% more wear.
Let CASTELL lay it on the line for you, too. Order from your own dealer. Recognize it by its beautiful "CASTELL green" polish.
9400 Push Button CASTELL LOCKTITE Holder
9030 Imported CASTELL Lead—7B to 9H—with the same unique qualities that made CASTELL 9000 wood-encased pencil famous.
CASTELL
the drawing pencil with the Master Degrees
A.W. FABER-CASTELL PENCIL COMPANY INC. NEWARK 4, N.J.
*Imported from West Germany



Your laboratory plans produce outstanding results with this simple, 3-step method

1. Contact a Professional manufacturer of laboratory equipment while plans are still at the preliminary stage. Let an experienced representative of this firm contribute to the solution of your problem knowledge gained through years of laboratory planning.

2. Prepare separate specifications covering laboratory equipment, or have these made a separate section of the general construction specifications. This permits Professional manufacturers to consider those portions of the job they are especially equipped to produce.

3. Secure direct bids from Professional manufacturers to the owners, or, when indicated, to the general contractor. In this way you receive the full benefits of specialized manufacturing facilities, volume production of standard components and thoroughly trained installation personnel. 1, 2, 3—that's all there is to it!

This entire question of laboratory planning and purchasing has been explored in Better Laboratory Planning, an attractive new booklet published by Scientific Apparatus Makers Association. Thoroughly readable, and illustrated with numerous photographs of outstanding laboratory installations, Better Laboratory Planning belongs in every architect's reference library.

If you have not received your copy it can be secured by writing to—

LABORATORY EQUIPMENT SECTION

Scientific Apparatus Makers Association

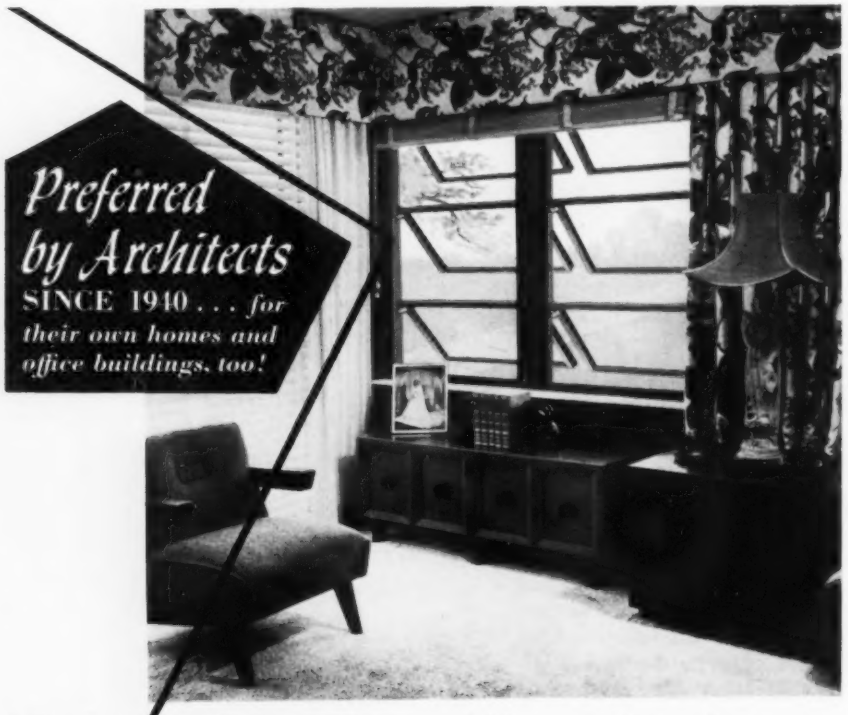
20 North Wacker Drive • Chicago 6, Illinois

THE RECORD REPORTS

WASHINGTON
(*Continued from page 248*)

Other civilian members are: Assistant Secretary of the Air Force E. V. Huggins (*ex officio*), chairman; John P. H. Perry, deputy for installations at USAF headquarters, vice chairman; Fred J. Driscoll, president of the George F. Driscoll Company of New York City; G. Dewey Hines, construction vice president of the Equitable Life Assurance Society of the U. S.; D. W. Winkleman, president of the D. W. Winkleman Company, Inc., Syracuse, N. Y.

Military members are: Maj.-Gen. John M. Weikert, assistant deputy chief of staff, Operations, USAF Headquarters; Maj.-Gen. M. J. Asensio, director of the budget, USAF; and Brig.-Gen. John R. Hardin, assistant chief of engineers for military construction, U. S. Army.



The Awning Window with an enviable record for performance!

More comfort from modern climate control features.

Greater protection from rain when windows are open.

Better performance from a wood window precision made.

Design harmony with horizontal muntin sash.

Longer life because completely Perma-Treated.

More confidence with a window backed by manufacturers since 1910.

Gate City PERMA-TREATED FOR LONG LIFE
Wood Awning Windows

Refer to SWEET'S FILE 17c-Ga

Member of the Producers' Council, Inc.

Free engineering service to assist you with any window problem. AR-1

GATE CITY SASH & DOOR CO.
"*Wood Window Craftsmen Since 1910*"
P.O. BOX 901, FORT LAUDERDALE, FLORIDA

Planned Industrial Districts: Developer's Role Discussed

The latest technical bulletin (No. 19) of the Urban Land Institute contains a comprehensive summary of the role of the developer in establishing a planned industrial district.

Ten selected industrial districts are discussed in detail, from features of the physical location and layout to management and marketing policies of the sponsors. The case studies include examples of a variety of planning and sponsorship practices.

The 56-page copyrighted publication discusses basic principles of location, land planning, building design and landscaping and gives some very specific details on matters of building types, setback lines, street dimensions, etc. There are numerous illustrations.

Technical Bulletin No. 19 is available at five dollars per copy from the Urban Land Institute, Washington 6, D. C.

ON THE CALENDAR

Jan. 8 throughout the year: Good Design 1953, sponsored by the Museum of Modern Art and the Merchandise Mart; a selection of home furnishings that have come on the market since July 1, 1952 — The Merchandise Mart, Chicago.

Jan. 13–15: Annual Meeting, National Constructors Association — Hotel Commodore, New York City.

Jan. 18–22: 1953 convention and exposition, National Association of Home Builders — Conrad Hilton Hotel, Chicago.

Jan. 19–22: Plant Maintenance Show and Conference — Public Auditorium, Cleveland.

Jan. 19–23: Winter General Meeting, American Institute of Electrical Engineers — Hotel Statler, New York City.

Jan. 21–Mar. 15; Built in U.S.A.: a survey of American architecture, both industrial and residential, since the Museum's 1944 exhibit — Museum of Modern Art, 11 West 53rd St., New York City.

Jan. 26–27: Annual Meeting, American Society of Landscape Architects — Ansley Hotel, Atlanta, Ga.

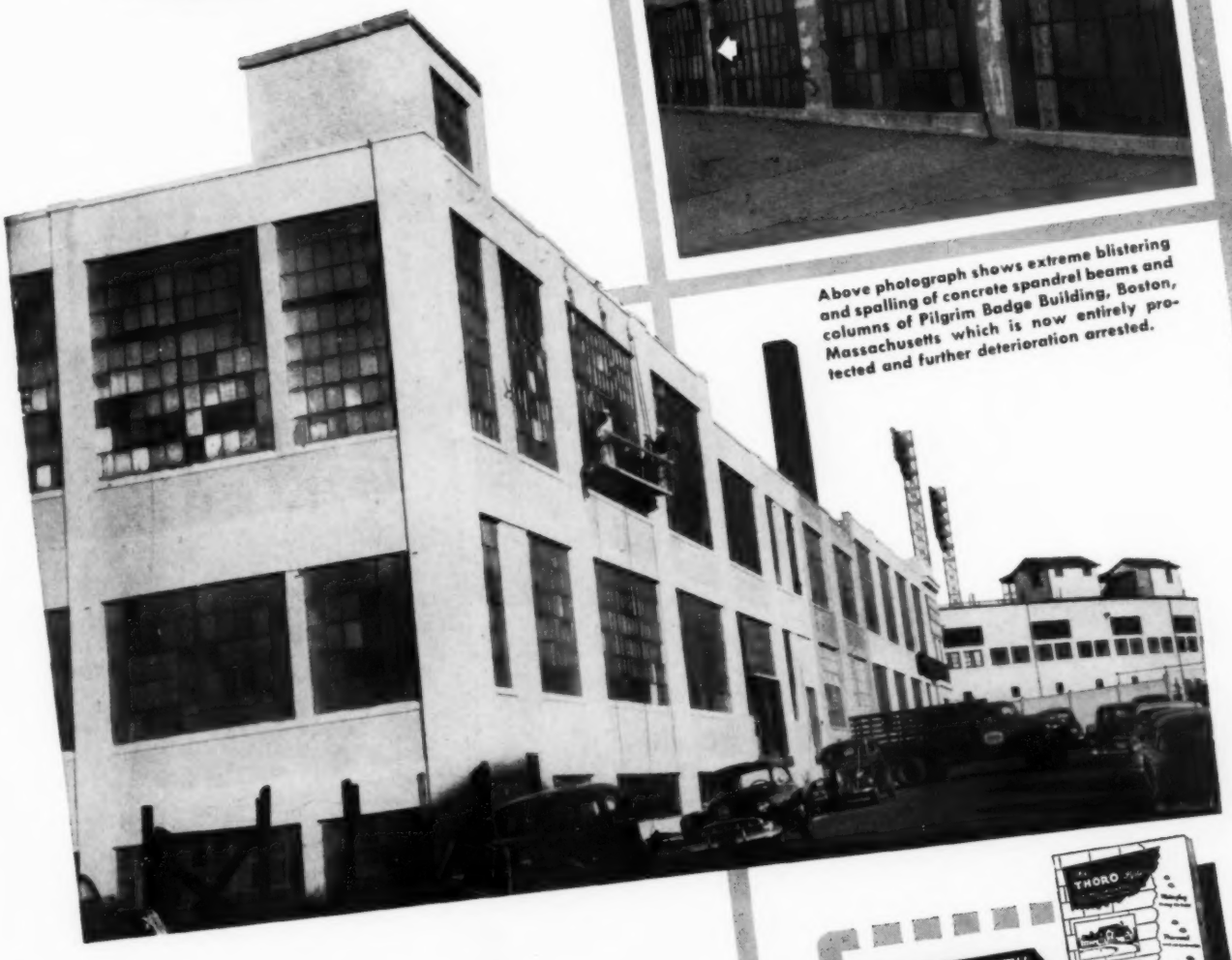
Jan. 26–29: 59th Annual Meeting, American Society of Heating and Ventilating Engineers — Conrad Hilton Hotel, Chicago.

(*Continued on page 256*)

A NEW SURFACE!
A BEAUTIFUL THOROSEAL SURFACE!

PILGRIM BADGE BUILDING
BOSTON, MASS.

Above photograph shows extreme blistering and spalling of concrete spandrel beams and columns of Pilgrim Badge Building, Boston, Massachusetts which is now entirely protected and further deterioration arrested.



Restoration of concrete spandrel beams and other structural concrete work done by contractor Henry Gironi, Allston, Massachusetts. THORITE Patching Mortar used to seal rods and patch blistered concrete and THOROSEAL to protect surface and patched areas.

"HOW TO DO IT"

Get our 20-page brochure, pictorially described in detail; also, architect's chart for your wall.

Standard Dry Wall Products
NEW EAGLE — 40th YEAR — PENNSYLVANIA

THE RECORD REPORTS

(*Continued from page 252*)

Jan. 26–30: 11th International Heating and Ventilating Exposition — International Amphitheater, Chicago.

Jan. 28–29: Eighth Annual Short Course in Residential Construction, sponsored by the Small Homes Council — University of Illinois, Urbana-Champaign, Ill.

Jan. 28–31: Annual meeting, Society of Architectural Historians — Cleveland.

Feb. 14–19: National Convention and Architectural Exhibit of School Buildings, American Association of School Administrators — Atlantic City.

Feb. 18–20: Eighth annual Conference of the Reinforced Plastics Division, Society of the Plastics Industry, Inc. — The Shoreham Hotel, Washington, D. C.

Feb. 21–Mar. 1: 1953 Exposition, Home Show of St. Louis, Inc. — Kiel Auditorium, St. Louis.

Mar. 16–20: National Association of Corrosion Engineers Conference — Chicago.

Mar. 23–April 4: York course on protection and repair of ancient buildings. Details from Secretary, York Civic Trust, St. Anthony's Hall, Peaseholme Green, York, England.

Corning Glass Works has under construction at Harrodsburg, Pa., a new optical glass plant. The new facility was designed by Ward & Moore of Corning with the engineering dept., Corning Glass Works

WHY "HILLYARD" when choosing FLOOR TREATMENTS?
Because: Hillyard products are specialized for particular floors – you can depend on them to add safety and beauty underfoot in any new building you plan – any old building you remodel.
Because: Hillyard trained floor experts (Hillyard Maintaineers) act as your job captains (without charge) from construction stage to finished beauty.
Because: Hillyard offers complete A.I.A. specifications on every type of floor "free on request" to architects and their specification writers.
WRITE – for the name and address of the Hillyard Maintaineer nearest you.
. . . on your staff not your payroll
See Our CATALOGUE IN SWEETS
"You know it's right if it comes in the checkerboard drum."
FLOOR HILLYARD TREATMENTS
ST. JOSEPH MISSOURI

OFFICE NOTES

Offices Opened

• G. W. Brandhorst and J. M. Leadholm have opened architectural offices in the St. Louis Park Theater Building at 4829 Minnetonka Boulevard, Minneapolis 16, Minn. The firm will be known as Brandhorst & Leadholm.

• Louis Gardner and Emanuel N. Turano have announced the opening of offices, with the name of Turano-Gardner Associates, at 35 West 53rd Street, New York 19, N. Y.

(*Continued on page 260*)

At Recreation

Bowlers and spectators enjoy clean comfort and even temperature in remodeled recreation center heated with Janitrol Unit Heaters.

Employees work better, have fewer colds where Janitrol Unit Heaters keep plant interiors at uniform temperatures regardless of outside weather.

or at Work

Assure clients "better business" with

Janitrol Unit Heaters are equipped for operation with natural, mixed, manufactured or LP-gases.

®Janitrol

GAS UNIT HEATERS

Whether for workers in industrial plants or for the comfort of patrons in shops, restaurants, or places of entertainment, there's a type of Janitrol Unit Heater to meet every individual heating requirement.

First: installation costs are comparatively low and, suspended overhead, no floor space is required.

Second: operation is automatic, requiring no attention and only a minimum of maintenance.

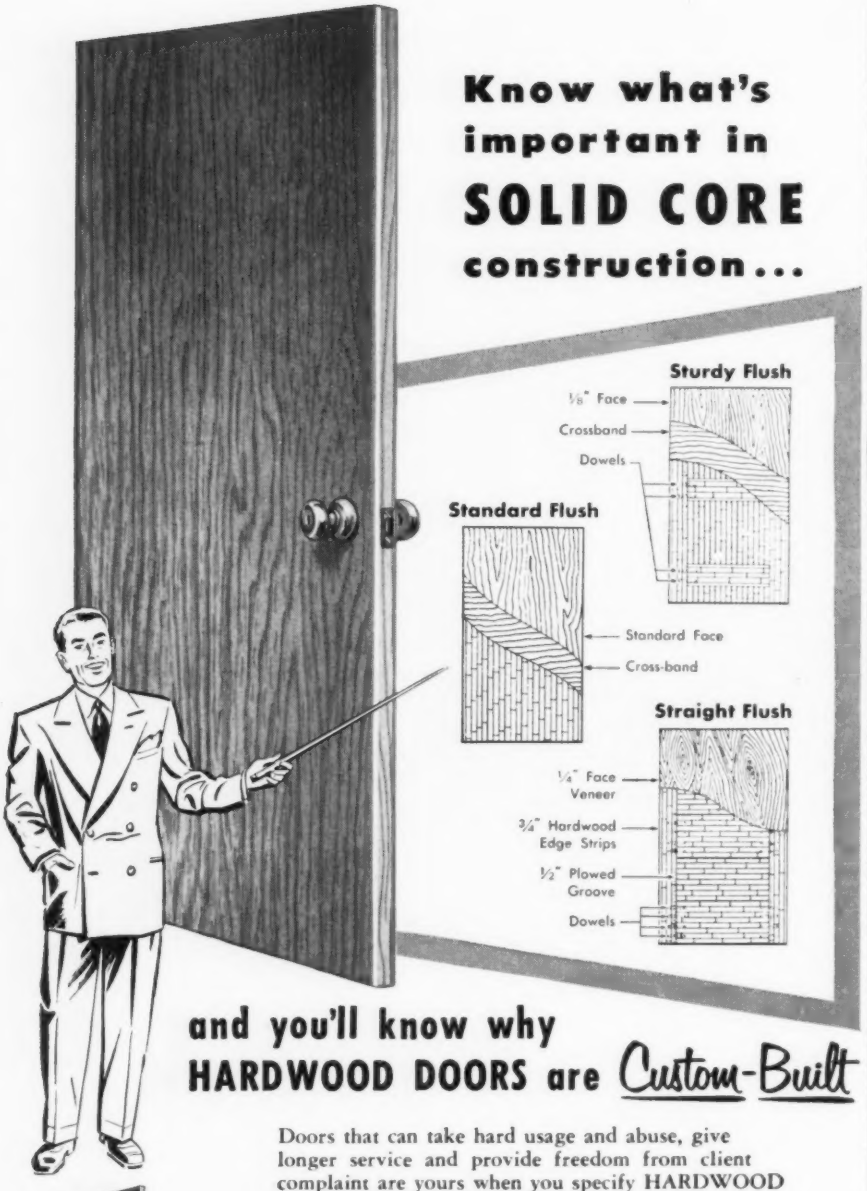
Third: heat is directed where it is most needed and only used when required, response is fast, operation economical.

Where summer air conditioning is to be installed, the same duct work can be used for heating by the installation of Duct-type Janitrol Unit Heaters as an integral part of the air conditioning system.

Your Janitrol Dealer will gladly help you with heating surveys and layouts . . . you'll find him listed in the classified section of your phone book under "Heating Apparatus-Unit Heaters." New *A.I.A. File* on Commercial and Industrial Heating is just off the press, write for your copy today.

SURFACE COMBUSTION CORPORATION, TOLEDO 1, OHIO

WINTER AIR CONDITIONERS • GRAVITY, FLOOR AND ATTIC FURNACES
BOILERS • UNIT HEATERS • CONVERSION BURNERS



Know what's important in SOLID CORE construction...

and you'll know why HARDWOOD DOORS are *Custom-Built*

Doors that can take hard usage and abuse, give longer service and provide freedom from client complaint are yours when you specify HARDWOOD solid core doors. Their superiority for extended service is built right in and you have a choice of three distinct types of construction . . . Standard Flush, Sturdy Flush and Straight Flush — each designed for a specific purpose, a specialized requirement. Study their differences and purposes, then compare with ordinary stock type doors and you'll readily appreciate why HARDWOOD DOORS are *made-to-order for your job.* We also produce Fire-resistant wood doors, X-Ray and Shielded doors to your specifications. Write us for further information or consult ARCHITECTURAL FILE 16C/HA.

And, for the utmost in privacy... specify our RIVERBANK *Sound Insulating* Doors.

For complete privacy and quiet, the finest doorway barrier to sound penetration — investigate this exclusive HARDWOOD door. Recommended by leading acoustical engineers.

•

OFFICES IN
NEW YORK • BOSTON
CHICAGO

HARDWOOD *PRODUCTS CORPORATION* **DOORS**

HARDWOOD PRODUCTS CORPORATION • NEENAH • WISCONSIN

THE RECORD REPORTS

(*Continued from page 256*)

• Charles L. Potter Jr., A.I.A., has opened an office for the practice of architecture at 11 Wade Hampton Boulevard, Greenville, S. C.

• Arthur O. Reddemann, A.I.A., has announced the opening of an office at 3420 West Center Street, Milwaukee 10, Wis.

New Firms, Firm Changes

• Baumann and Baumann, Architects, of Market Street, Knoxville, Tenn., have announced the formation of a corporation to carry out all uncompleted contracts and for continued general practice, to be known as Baumann and Baumann, Inc., Architects-Engineers. Will W. Griffin, A.I.A., is president.

• Preston Bolton, A.I.A., and Howard Barnstone, A.I.A., have formed a partnership for the practice of architecture, with offices at 3106 Brazos, Houston 6, Tex.

• Carl H. Gausewitz has announced partnership with Robert C. Cashin, the firm to be known as Gausewitz & Cashin, Architects and Engineers, 201 Tenny Building, 110 East Main Street, Madison, Wis.

• Ernest Ross and Bertram S. Koslen announce the formation of a partnership to be known as Koslen & Ross, Architects, with offices at 2163 Lee Road, Cedar-Lee Building, Cleveland Heights 18, Ohio.

• Arthur H. Kuljian, chief mechanical engineer for the Kuljian Corporation, engineers and constructors of Philadelphia, has been elected vice-president in charge of engineering of the firm.

• Ramey & Himes, Architects, have appointed Henry W. Schirmer, Jr., and Robert J. Schaefer as associates in the firm.

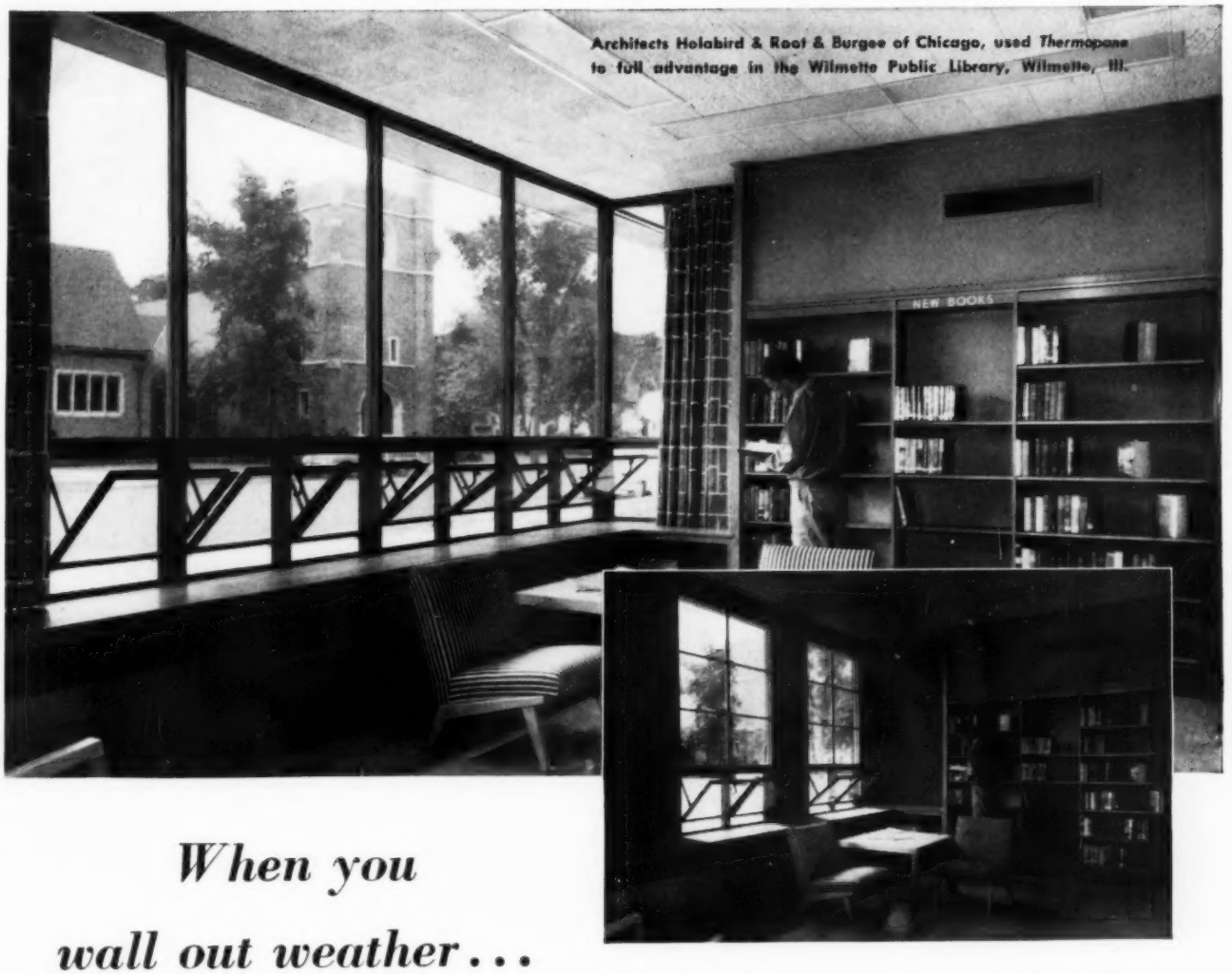
New Addresses:

The following new addresses have been announced:

Mayo & Mayo, Architects, Suite 2630, 35 East Wacker Drive, Chicago 1, Ill.

Joseph Stein, Architect, 168 Grand Street, Waterbury, Conn.

(*Continued on page 264*)

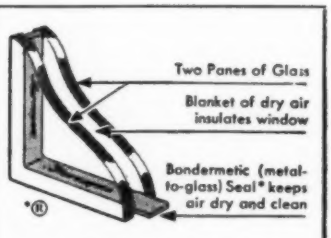


Architects Holabird & Root & Burgee of Chicago, used *Thermopane* to full advantage in the Wilmette Public Library, Wilmette, Ill.

When you wall out weather . . .

WHY WALL OUT LIGHT, VIEW AND SUNSHINE?

The smaller retouched photograph of the Wilmette Library shows how the architects' design would have suffered had they used conventional windows. A wall is designed to shut out the weather, to keep heat in during winter, out during summer. You can do all this with *Thermopane** insulating glass and still give your client the priceless pleasures of sunshine and view with lots of natural, eye-comforting *free* daylight. For every building you design, compare the cost of a *Thermopane* Daylight Wall —*Thermopane* wall to wall and sill to ceiling—with one of opaque materials that must be finished and decorated on the inside. Then consider the special benefits you can give your clients when the insulated wall is also transparent. *Thermopane* is a bargain!



QUICK FACTS

Thermopane **insulating glass is widely and successfully used in all kinds of buildings.** ***Thermopane*** **with ½″ of dry air hermetically sealed between two panes has twice the insulating value of single glass. This minimizes chilliness, drafts and heat loss at windows in winter.** ***Thermopane*** **cuts air-conditioning costs by reducing the amount of heat entering during summer. Cuts out 44% more noise than a single pane. Write for** ***Thermopane*** **literature.**

For the latest Thermopane information consult the 1953 Sweets File, or write Libbey·Owens·Ford Glass Co. 4113 Nicholas Bldg., Toledo 3, Ohio.

FOR THE JOY OF ABUNDANT LIGHT AND VIEW

DAYLIGHT WALLS

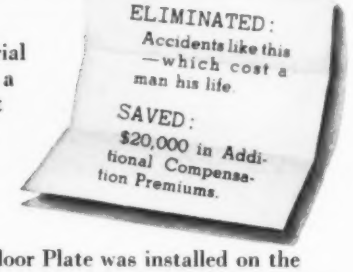
L·O·F GLASS PLASKON FIBER GLASS

OTHER L-O-F GLASS PRODUCTS: VITROLITE* • TUF-FLEX* TEMPERED PLATE GLASS • TUF-FLEX DOORS • SAFETY GLASS • E-Z-EYE SAFETY PLATE GLASS • FIBER-GLASS

. . . THEN WE INSTALLED ALGRIP

And Ended Slipping Accidents And High Insurance Costs!

It happened at a large industrial plant, where oil and grease on a loading platform created a constant hazard. A lift truck skidded on the slippery surface, toppled from the platform's edge, and crushed the operator to death.



Then A.W. ALGRIP Abrasive Rolled Steel Floor Plate was installed on the platform—and slipping accidents ended at once. For ALGRIP is truly non-slip—even on steep inclines! Hundreds of tiny abrasive particles in each square foot of ALGRIP converted the slippery, dangerous platform into a hard gripping, anti-skid surface—safe for men and vehicles alike.

IMMEDIATE SAVINGS were obtained in three ways: (*1*) *No more costly, morale shattering accidents.* (*2*) *Faster handling of loads.* (*3*) *Workmen's compensation insurance premiums were substantially reduced by more than enough to pay for the* ALGRIP *installation.*

END SLIPPING ACCIDENTS THAT STEAL PRODUCTION AND KITE INSURANCE RATES

A.W. ALGRIP—only abrasive rolled steel floor plate in the world—pays for itself in savings from safety. Tough abrasive particles (same kind used in grinding wheels) put hundreds of tiny safety-brakes in every footstep—make it virtually impossible to slip even on steep inclines. ALGRIP doesn't wear smooth either—wear only exposes new particles. And tough rolled steel makes this floor plate stronger than other abrasive floorings. For safety at a saving, get the full ALGRIP story today. Write for our new Booklet AL-21—without obligation.

Over 125 Years of Iron and Steel Making Experience.

ALGRIP Abrasive Rolled Steel Floor Plate

ALAN WOOD STEEL COMPANY

CONSHOHOCKEN, PA.

Other Products: A. W. SUPER-DIAMOND Floor Plate • Plates • Sheet • Strip (Alloy and Special Grades)

THE RECORD REPORTS

(*Continued from page 260*)

AT THE COLLEGES

Conference Hears Report On Trussed Rafter Study

A conference on trussed rafters held at the Wood Research Laboratory of Virginia Polytechnic Institute heard the findings of a two-year study performed by Dr. E. George Stern of the Virginia Engineering Experiment Station and P. W. Stoneburner of the Virginia Agricultural Experiment Station.

Participants in the conference included representatives of the Housing and Home Finance Agency, the Engineering Research and Development Laboratories of the Corps of Engineers, the Small Homes Council of the University of Illinois, New York University College of Engineering and the Timber Engineering Co. of Washington, D. C., in addition to a number of architects and manufacturers actively engaged in research on trussed rafters. Besides hearing the reports, the group also examined the facilities of the Laboratories.

Research Findings Reported

In the tests reported, as many as 44 nailed, Burrlocked-assembled, bolted and slit-ring connectored trussed rafters of 26-ft span were tested to destruction. It was found that the type of nailed trussed rafter suggested by V.P.I., with nails in double shear, performs very satisfactorily, saves a considerable amount of lumber and can be easily fabricated without special tools and equipment.

The newly developed trussed rafters are already being used in the erection of demonstration homes in New York State, designed by the Research Division of New York University under the sponsorship of HHFA. A color film showing the fabrication and erection of the nailed trussed rafters was shown to the conference by Hyman Steinberg of New York University.

The conference also discussed performance characteristics of nailed-and-glued trussed rafters, split-ring connectored trussed rafters and the "W" truss suggested by the Small Homes Council. These were compared with performance characteristics of the V.P.I. designs, which are suitable for both prefabrication and site-fabrication.

Complete results of the V.P.I. investigation are published in the Vir-

(*Continued on page 268*)

For Edgewater Towers
Cleveland, Ohio

THE ANSWER IS
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No. 4832—Duplex Convenience Outlet

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NEW, 205 SUITE APARTMENT—Edgewater Towers, a spacious, 11-story structure, is the latest in Cleveland's family of new apartments. Keynoting its facilities for gracious living is the use of Bryant quality wiring devices throughout.

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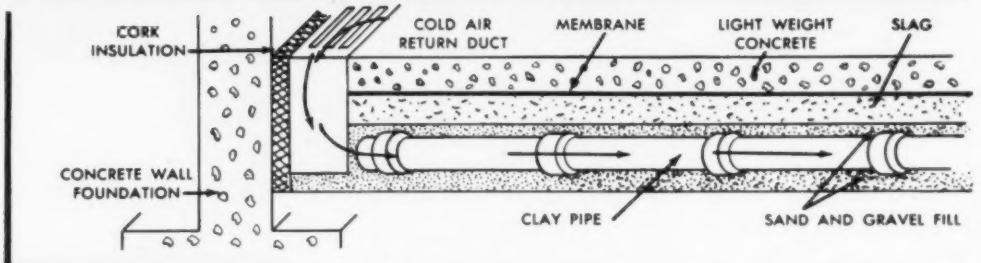
THAT MUST BE PERMANENT,

I specify **CLAY PIPE"**

— says HENRY C. R. GRIEME, R. A. of Chagrin Falls, Ohio

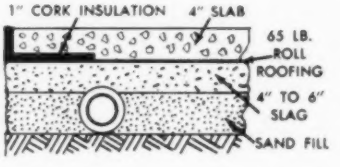
Clay Pipe cold air return ducts are a quality feature of this home and many other custom-built basementless homes designed by Mr. Grieme.



"Cold air return ducts buried under a concrete floor slab must be permanent," says Mr. Grieme. "That's why we specify Clay Pipe. The cost is the lowest we have been able to find for a permanent material."

There's no *safe* substitute for Vitrified Clay Pipe when you install heating or ventilating ducts under a concrete floor slab. Clay Pipe doesn't squash out of round or float when the concrete is poured. Clay Pipe can't corrode or disintegrate to block up the duct system. Every section is guaranteed for 50 years. Why take chances on substitute materials? Use Clay Pipe and be *sure* the job is right.

This heating system shows how Clay Pipe can be used effectively for cold air return ducts as well as for warm air. Ducts made of 8, 10 and 12-inch Clay Pipe, depending upon the size of the rooms, are covered with a layer of pea gravel or coarse slag, and a moisture membrane. Then the concrete floor slab is poured. Light-weight aggregate used in the slab makes it an insulator, insuring warm, dry floors.



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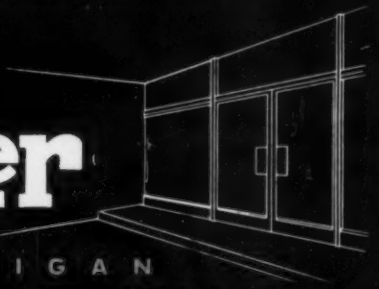

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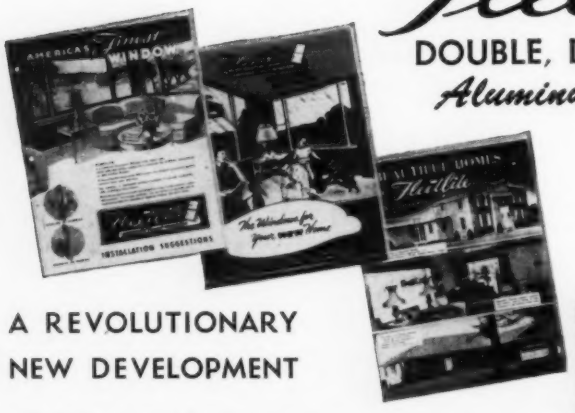

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Architects everywhere appreciate the amazing freedom of design offered by FLEETLITE double hung windows—and the matching picture windows—in any size or shape.

The tight construction of these fabulous windows, together with the double window feature, saves fuel costs, keeps out dust and heat in warm weather. Smaller, less expensive air conditioners may be used.

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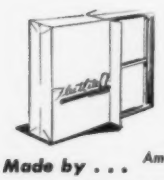

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THE RECORD REPORTS

(*Continued from page 264*)

ginia Engineering Experiment Station Bulletin No. 81, September 1952. Copies may be procured from Dr. E. George Stern, Virginia Polytechnic Institute, Blacksburg, Va.

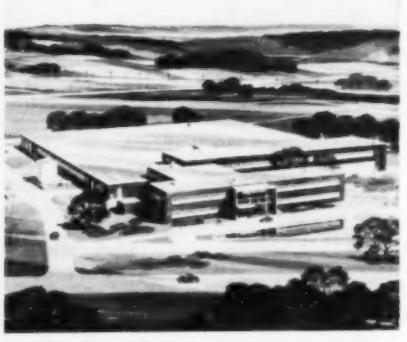
"Tides of Taste" Subject Of Chicago Lecture Series

Twelve University of Chicago University College lectures on "Tides of Taste" will discuss the hundred years of change in architecture and decoration from the Regency Style to "Modernismus." David S. Watson, University College lecturer, will conduct the series.

The lectures will cover such varied topics as esthetics and academics; the theorists of the great revivals (Cockerell, Pugin, Ruskin, Viollet-le-Duc); architects, architecture and the battle of the styles; the Turkey carpet and the keepsake face of the mid-Victorian era; and state capitols and palace hotels.

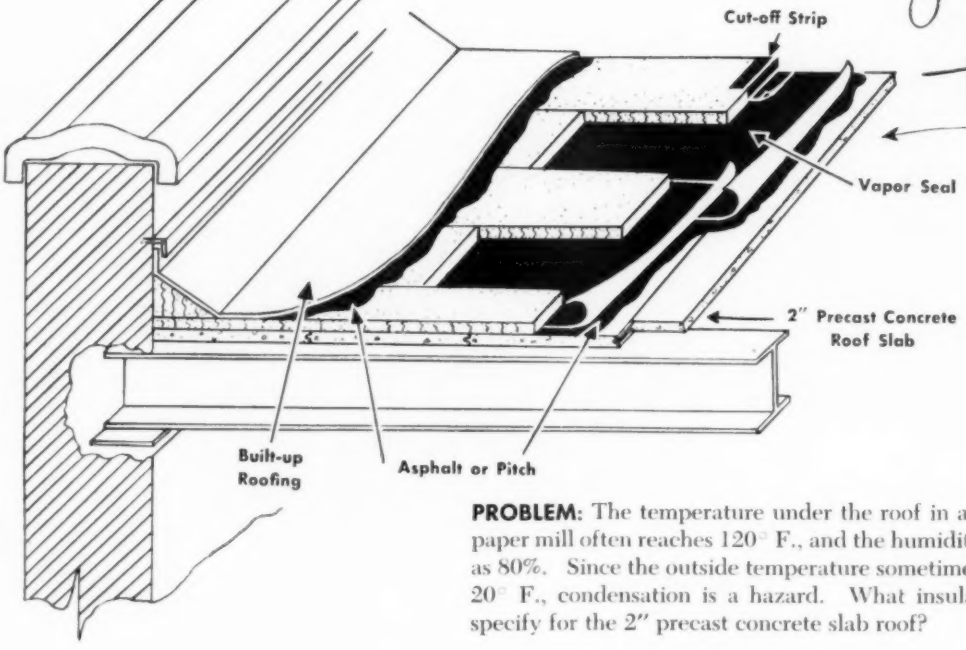
Other lectures include "Engineering and Elegance," "The Revival of Craftsmanship," "The Search for a New Tradition," "The Skyscraper" and "Modernismus, the Bauhaus, Wright, Neutra, Le Corbusier and the Influence of the Paris Exposition."

(*Continued on page 272*)



Mennen Company, manufacturers of men's toiletries and baby products, will move early next year from Newark to a new building on a 100-acre site near Morristown, N. J. The office, warehousing and manufacturing facilities will be consolidated for the first time in the new structure, which provides more than 264,000 sq ft of floor space. The actual building site is 20 acres; the remainder is being held by the company for possible sale to "other suitable industries." A. M. Kinney, Inc., was the designer

How would you insulate this roof?



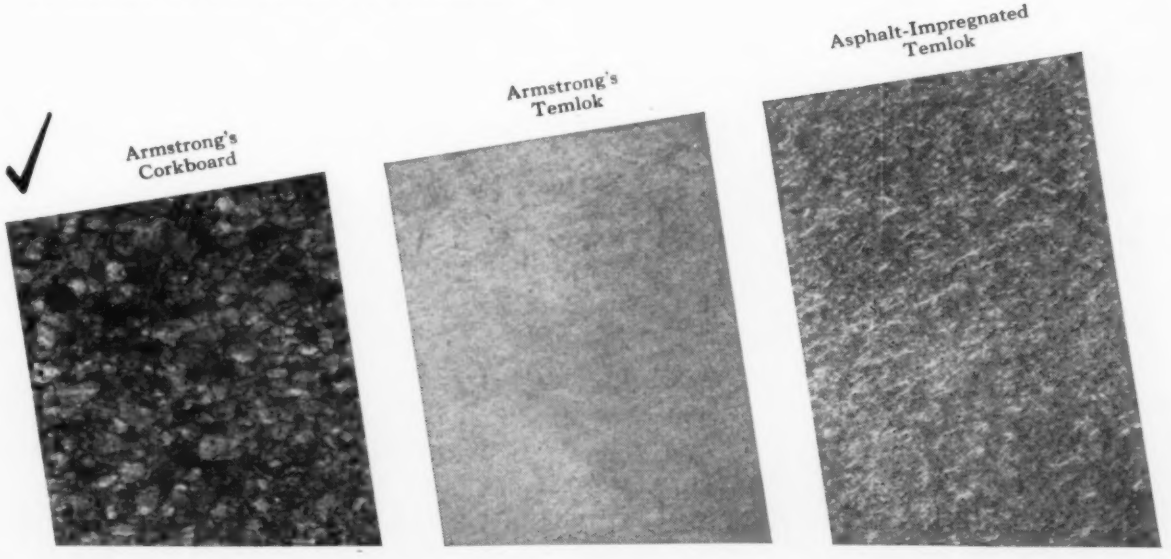
PROBLEM: The temperature under the roof in a New York State paper mill often reaches 120° F., and the humidity may go as high as 80%. Since the outside temperature sometimes drops to minus 20° F., condensation is a hazard. What insulation would you specify for the 2" precast concrete slab roof?

SOLUTION: The given temperature and humidity conditions call for a material with exceptional insulating qualities. Armstrong's Corkboard Roof Insulation is the standard choice of many architects for rugged service conditions like this. A 2" thickness of corkboard, applied over a vapor seal, will give long-lasting protection and produce a U-factor of .12.

Armstrong's Corkboard is made entirely of pure cork granules. The material's cellular structure gives it high insulating efficiency and great resistance to moisture. Corkboard, installed in conformance with Armstrong's specifications, repeatedly has proved its ability to stand up under severe service conditions. Its record of 20 and more years of trouble-free service on roofs of all types cannot be matched by any other material.

Of course, every roof insulation job has its own requirements. Where cost is primary, or conditions less demanding, you may select Armstrong's Temlok®. Available in either regular or asphalt-impregnated forms, Temlok is an efficient, low-cost fiberboard. For complete information on Armstrong's Roof Insulation, call your local Armstrong office or write to Armstrong Cork Company, 2401 Concord Street, Lancaster, Pennsylvania.

ARMSTRONG'S ROOF INSULATIONS



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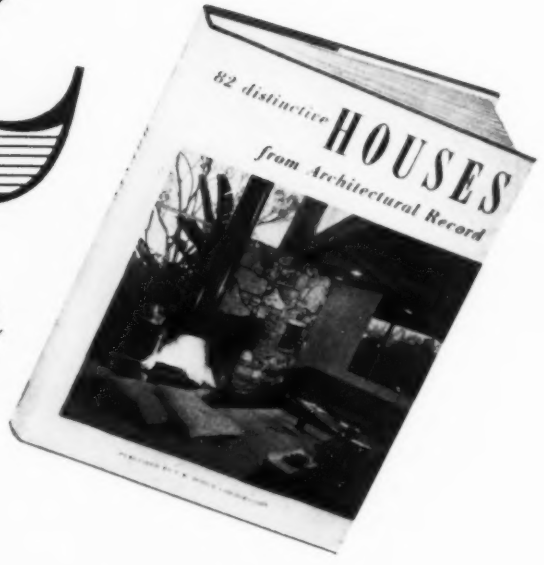

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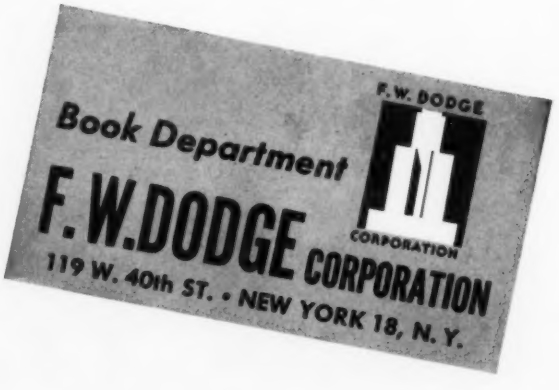

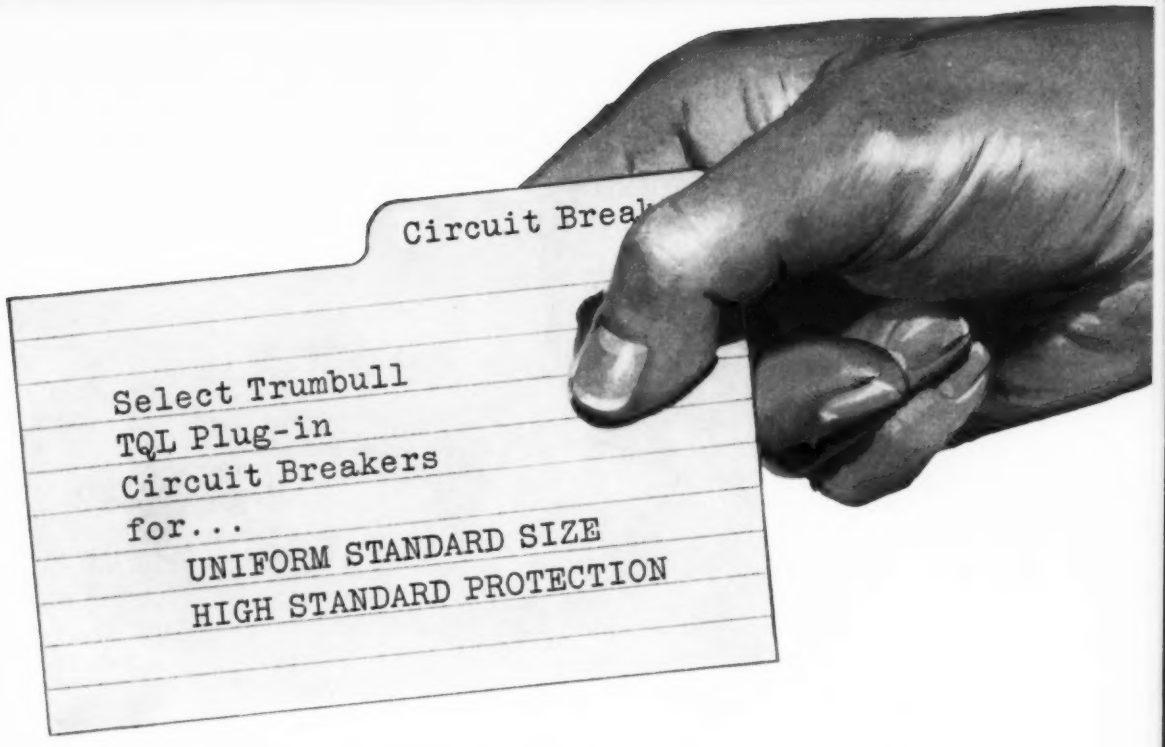

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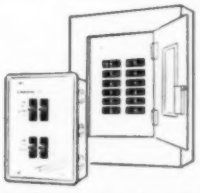
Trumbull also sets the quality and safety standard with a thermal-magnetic trip for positive protection against both shorts and sustained overloads. Compact and economical to buy and install. They pay for themselves because they are built to last a lifetime. They pay big dividends in letting you restore service quickly after short or overload is corrected. They may well save a capital investment by prevention of overheated circuits.

Quick Facts



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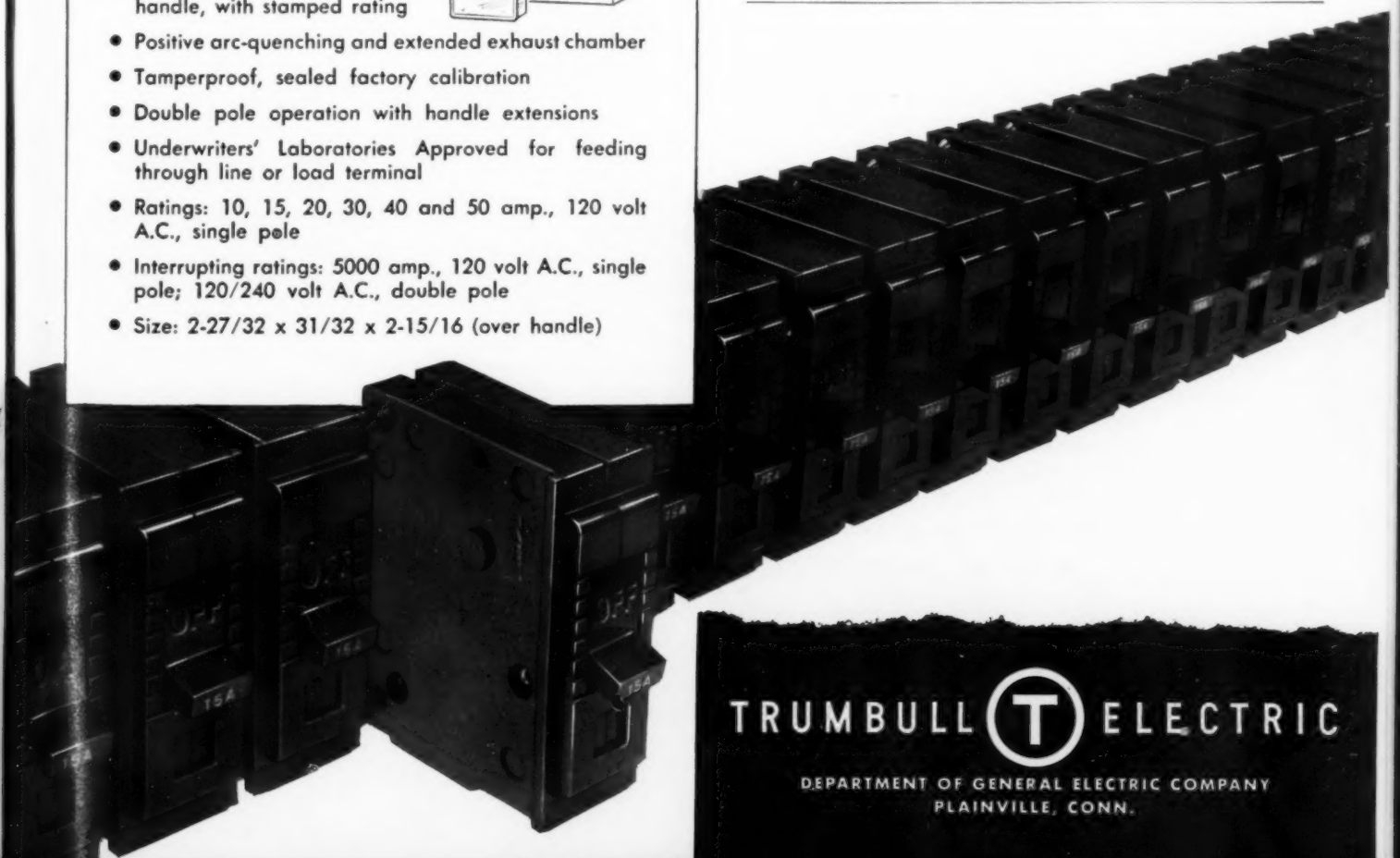

TRUMBULL (T) ELECTRIC

DEPARTMENT OF GENERAL ELECTRIC COMPANY
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THE RECORD REPORTS

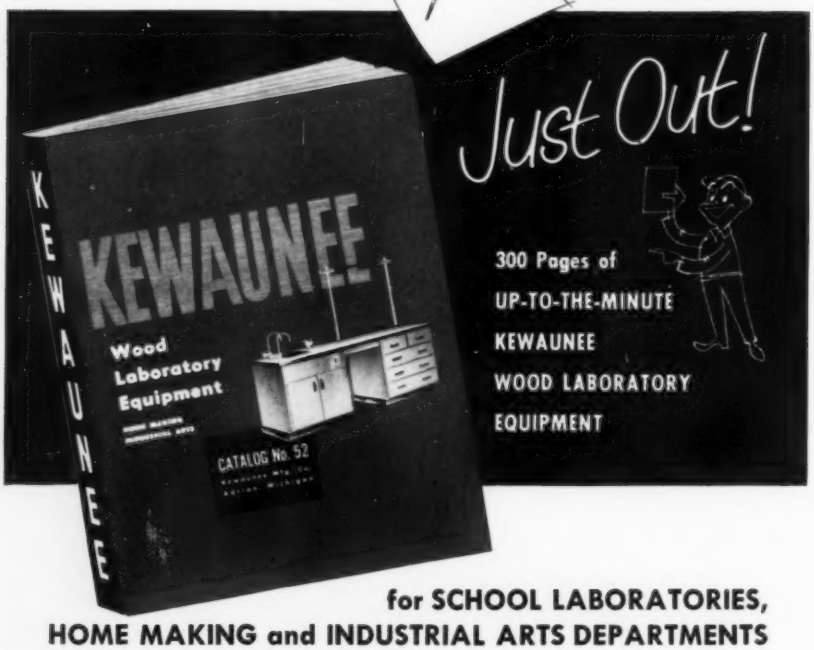
(*Continued from page 268*)

Harvard Offers Scholarship For Landscape Architecture

The Department of Landscape Architecture, Graduate School of Design, Harvard University, has announced the availability of two scholarships for academic year 1953–1954. One scholarship carries a stipend of $600, the equivalent of the tuition for one year. Inquiries may be addressed to the chairman, Department of Landscape Architecture, Robinson Hall, Harvard University, Cambridge 38, Mass.

Another scholarship for graduate study in landscape architecture is being offered for the coming academic year by the Department of Landscape Architecture. The scholarship provides an income of $1000, of which $600 is for tuition and $400 for help with expenses. Candidates must be citizens of the United States and have received their bachelor's degree or equivalent within the past four years. Students who are candidates for the degree in June 1953 are also eligible. Closing date for applications is February 1. Inquiries may be addressed to the chairman of the Department of Landscape Architecture, Robinson Hall, Harvard University, Cambridge 38, Mass.

a Helpful Book for any Architect



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New Courses

• A course in "Architectural Interiors" will be offered by the Columbia University School of General Studies in cooperation with the School of Architecture. The course is described as "a survey of architectural history with special emphasis on the study of interiors and furniture." Instructor will be Michael Harris, architect, who is associate director of planning for United Nations Headquarters. The course is open to non-matriculated or special students.

• Columbia's School of General Studies has also established a new major program in construction management. This program is designed to enable men and women either engaged in the building industry or preparing to enter it in administrative or supervisory capacities to earn college degrees while mastering the principles of building construction. The program includes both specialized professional courses and general cultural and academic courses. Normally, the program can be completed in four years of full-time study, but most courses will be offered in late afternoon and evening, so that students can earn degrees over a longer period of part-time study, without interference with their regular employment.

Faculty Appointments

• Prof. S. M. Marco has been named chairman of the Department of Mechanical Engineering at Ohio State University. He succeeds Prof. Aubrey I. Brown, chairman of the department since 1946, who asked to be relieved of the duties of the chairmanship, so that he could devote full time to teaching.

• A. James Speyer, assistant professor of architecture at Illinois Institute of Technology, has been appointed to the rank of associate professor.

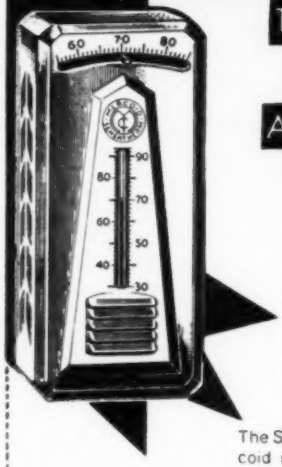
• Clyde A. Patterson Jr. has been appointed critic in design in the Dept. of Architecture, Western Reserve Univ.

AWARDS

• Thirteen buildings won honors in the 1952 architectural competition sponsored by the Queens, N. Y., Chamber of

(*Continued on page 276*)

FEATURED in HOUSE & GARDEN'S 1953 **House of Ideas**



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THE RECORD REPORTS

(*Continued from page 272*)

Commerce for buildings erected in the borough during the past year. Cited for "excellence in design and construction," the prizewinners included the following structures:

St. Teresa's Roman Catholic Church, Woodside, William J. Boegel, architect; Metropolitan Industrial Bank, Forest Hills, Philip Birnbaum, architect; Bestform Foundations Building, Long Island City, Rahman & Astor and Irene von Horvath, architects; Gertz-Flushing Department Store, Abbott, Merkt & Co., engineers; Queens Village Public Library, Raymond Irrera, architect; Leo F. Kearns Funeral Home, Richmond Hill, A. F. Meissner, architect; Park Briar Apartment Building, Forest Hills, Lawrence N. Rothman, architect; Queensview Cooperative Apartments, Long Island City, Brown & Guenther, architects; Schaefer Warehouse, Long Island City, Louis H. Pfohl, architect; Long Island City Savings & Loan Association, Raymond Irrera and Vincent D. Luongo, architects; Long Island City Savings Bank, Rego Park, Halsy, McCormick and Helmer, architects; Douglaston substation of Consolidated Edison Co., designed by the company's own structural engineering bureau; and Plaxall Building, Long Island City, Louis H. Pfohl, architect.

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PRODUCERS PLAN TO GIVE FACTS ON NEW MATERIALS

Dissemination of factual information concerning proper uses of new and improved building materials is slated as a major goal this year by the Producers' Council.

Elliott C. Spratt, Council president, has described the aim of the program as designed "to help reduce the cost and improve the quality of construction by showing architects, builders, contractors and distributors how to utilize most efficiently the host of varied products now on the market."

Informational meetings, products displays, films and technical literature supplied by company and association members of the Council are all to be included in the program. Details are to be developed by the Council's joint committees with the American Institute of Architects, the National Association of Home Builders, the Associated General Contractors of America and the National Retail Lumber Dealers Association.

(*More news on page 280*)

Holabird and Root and Burgee of Chicago are architects, Frederick Dunn of St. Louis, associate architect, for the Monsanto Chemical Company's new headquarters office building in St. Louis County. The initial building, to be eight stories high and contain about 350,000 sq ft, is part of an overall plan to accommodate long-range needs

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They all have Robertson Q-Floors.

The lightweight steel, load-carrying subfloors save other materials. The fast Q-Floor installation saves time. The earlier completion date reduces the cost of financing and starts the income sooner.

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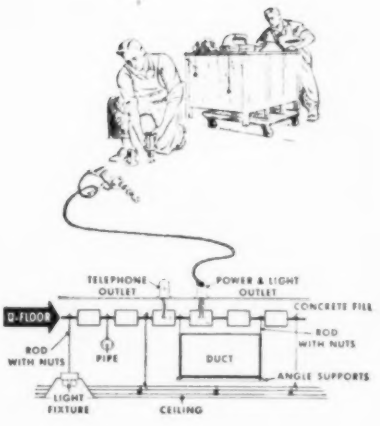

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THE RECORD REPORTS

(*Continued from page 276*)

OBITUARY

JAMES W. O'CONNOR, New York architect, died November 11 in Glen Cove, L. I., at the age of 77.

A native of New York, Mr. O'Connor was graduated from Columbia University in 1898 and did further work at the Ecole des Beaux Arts in Paris. He established his own firm in 1903, and for the past 25 years was in partnership with James F. Delaney. The firm designed schools, churches, convents and public housing projects, in addition to residential work.

Mr. O'Connor was a Fellow of the American Institute of Architects. He received the Medal of the Architectural League in 1937, and the League's President's Medal in 1948

EDMUND HOWE POGGI, architect and coordinator of mechanical trades and engineering for the United Nations buildings in New York, died November 26 in that city. He was 74 years old.

Long active in architectural projects in New York, Pittsburgh, Philadelphia and South America, Mr. Poggi was a member of the firm of Walsh, Sturdevant and Poggi, Wilkes-Barre, Pa.

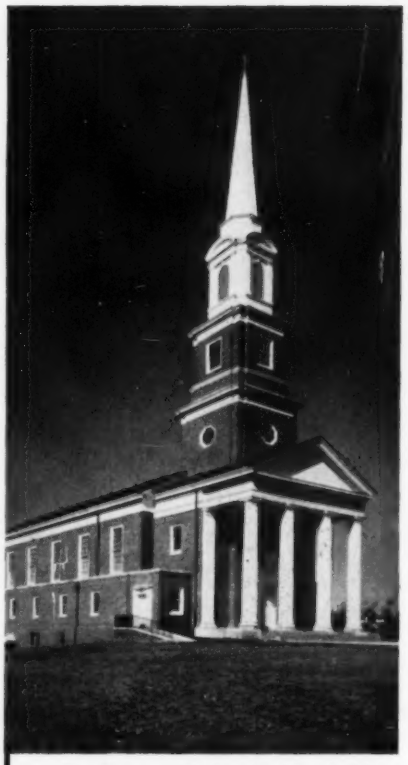
Born in New York, Mr. Poggi attended Springfield College, Springfield, Mass., and studied architecture before World War I, when he became a construction engineer with the American Expeditionary Forces. During World War II he was with the Army Signal Corps.

JOHN C. TREDWELL, a past president of the American Institute of Real Estate Appraisers, died Nov. 25 in Suffern, N. Y., after a brief illness. He would have been 57 years old on Nov. 28.

Mr. Tredwell was a trustee of the Union Dime Savings Bank and a former governor of the Real Estate Board of New York. He headed his own appraisal firm, which he founded in 1940. With an associate, George Goldstein, he did the rental value appraisal of all housing facilities for the Atomic Energy Commission projects at Oak Ridge, Tenn., and Los Alamos, N. M.

Mr. Tredwell was active on the Economic Surveys Committee of the Real Estate Board of New York and the New York State Appraisal Society.

(*Continued on page 284*)



The Evergreen Presbyterian Church, Memphis, Tenn., protected by Minwax Caulking Compound, Minwax Weathercap and Minwax Transparent. Architect: *Walk C. Jones;* General Contractor: *S. & W. Construction Co.;* Application Contractor: *Kermit Buck.*

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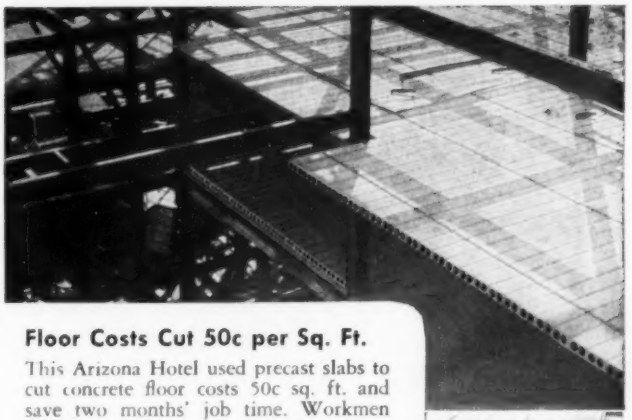

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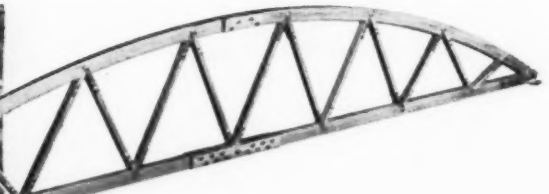

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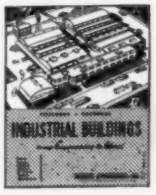

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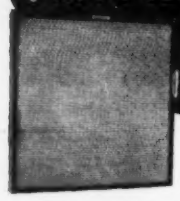

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THE RECORD REPORTS

(*Continued from page 280*)

ELECTUS DARWIN LITCHFIELD, New York architect, died there Nov. 28 at the age of 80. Mr. Litchfield had been ill for some time and retired two years ago from the firm which bears his name and which he headed.

Mr. Litchfield had attained national renown for his 40-year battle to clear the name of his grandfather, Lieut. William S. Cox, a naval lieutenant in the war of 1812. Lieut. Cox helped carry his dying captain below decks of the frigate Chesapeake during a battle with the British and was later demoted for leaving the scene of the fighting while senior uninjured officer. On Sept 8 of this year, Mr. Litchfield won his fight and received a certificate of restoration of Mr. Cox's commission.

Mr. Litchfield was graduated from Brooklyn Polytechnic Institute and Stevens Institute of Technology. He was associated with various architectural firms until, in 1926, he established his own. He was an architect for the many public and commercial buildings in a number of cities, including the Denver post office and courthouse, the St. Paul public library and the National Armory in Washington.

Mr. Litchfield was a Fellow of the American Institute of Architects and a founder of the New York Building Congress.

ADDENDA

• Joseph D. Murphy and Angelo Corrubia were associate architects of Faith Hospital, St. Louis (ARCHITECTURAL RECORD, November 1952, page 18).

• Architectural credits for the Dunes Acres, Ind., house for Professor and Mrs. Avery Craven (ARCHITECTURAL RECORD, November 1952, page 195) should have been given as follows: George Fred Keck — William Keck, Architects; Robert Bruce Tague — William Reed, Associates.

• The Hadassah Medical Center shown on page 157 of the November issue of ARCHITECTURAL RECORD is the original center on Mt. Scopius, and was designed by Eric Mendelsohn. Joseph Neufeld, who was erroneously credited in the caption, is the architect of the new Hadassah Medical Center.

(*More news on page 286*)

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THE RECORD REPORTS

(*Continued from page 284*)

KELLY & GRUZEN DESIGN GYM FOR POWER ACADEMY

New meets old quite straightforwardly in the Power Gymnasium Building which has been designed by Kelly & Gruzen, Architects-Engineers, as an addition to the Power Memorial Academy in New York City.

Power Gymnasium Building, designed as addition to Power Memorial Academy in New York City by Kelly & Gruzen, Architects

The two-story gymnasium will be of contemporary design, two stories high, of fireproof construction. There will be seating accommodations for 1400 spectators and gymnasium facilities and equipment to include a regulation basketball court and two practice courts with folding partition, a removable stage, folding gym seats, a mezzanine storage area, locker and shower rooms and an instructor's office.

A granite stairway rising from the street level will lead to a connecting lobby which will be the main entrance for both the school and the gymnasium. Cost of the building is estimated at $450,000. Construction is under way and is expected to be completed by the middle of next year.

CHICAGO TO REDEVELOP SQUARE MILE SLUM AREA

The Chicago Land Clearance Commission, which recently celebrated its fifth birthday, has set as its target for the next five years the redevelopment of one square mile of slum and blighted areas.

According to John McKinlay, Commission chairman, two deteriorated neighborhoods, each of 120 acres, are under study and redemption of about 100 acres of blighted vacant land or "dead" subdivisions is planned for 1957, along with other redevelopment operations which will include another 100 acres. Four projects covering 227 acres have been started and the program for the next five years will approximate 667 acres.

(*More news on page 288*)

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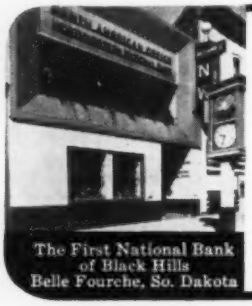

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 (*Continued from page 286*)

PARK FOREST CENTER GETS NEW DEPARTMENT STORE

One of the largest one-floor department stores in the Middle West will be built for Goldblatt Bros., Inc., as part of the new $125,000,000 planned community and shopping center of Park Forest, Ill.

The Goldblatt store, with about 60,000 sq ft of floor space, will be the firm's 16th in the Chicago area. Loebl, Schlossman & Bennett are the architects.

Goldblatt Bros. of Chicago will have a $2 million department store in the shopping center of the planned community of Park Forest, near Chicago. It will be the 16th in the firm's chain of stores, is planned to duplicate the facilities and merchandise of downtown stores. The store will have 60,000 sq ft of floor space on one floor

The new store will carry the same lines as the other stores of the chain. It will have an outside selling area designed for seasonal selling of shrubbery, garden furniture and supplies and related items.

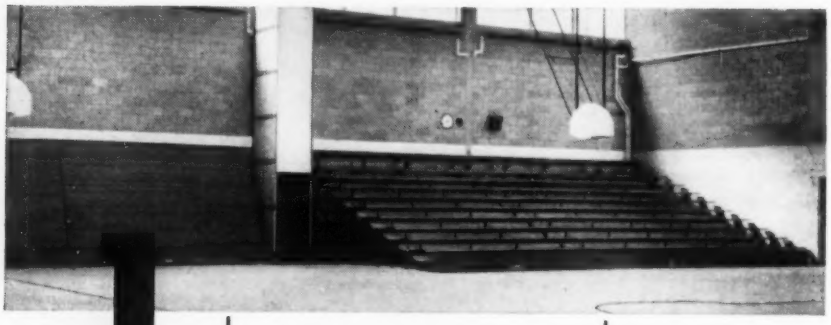
The existing parking lot at the Park Forest center will be expanded from its present 1500-car capacity to 3000 cars to accommodate the new store.

The store is planned to serve not only the community at Park Forest but the 60,000 persons in the growing nearby communities of Chicago Heights, Homewood, Flossmoor, Steger, Crete, Matteson and Olympia Fields. An additional 100,000 persons live within easy distance of the center.

The Park Forest center now has 40 shops and stores, and another 40 are to be added. The entire center is canopied for all-weather shopping. There is no vehicular traffic through the area; provision has been made for automobile traffic in large parking lots flanking the center. All stores are air conditioned.

Park Forest, which now houses some 17,000 persons in 4500 privately-owned and rental houses, is expected to grow to 32,000 by early 1954. The town was developed by American Community Builders Inc., headed by Philip M. Klutznick, president, and Nathan Manilow, vice president and treasurer. Loebl, Schlossman & Bennett are the architects for the planned community.

(*More news on page 290*)



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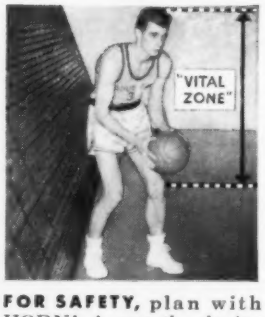

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THE RECORD REPORTS

(*Continued from page 288*)

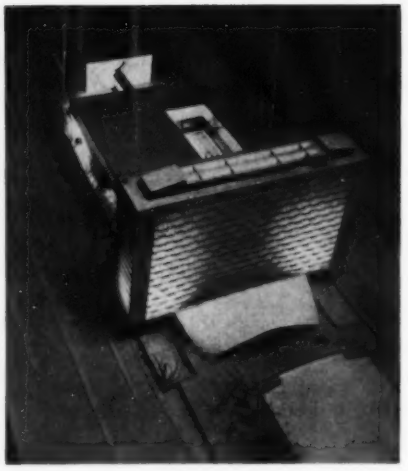
PERIODICAL REPORT

The Architects' Journal

November 6, 1952

UNESCO or Fiasco? Under this heading, *Astragal*, the Journal's witty, anonymous commentator on the architectural passing show, delivers some observations on the project for a new UNESCO headquarters in Paris and on the controversy which has centered about it. He reports his early reactions as follows:

"First: headquarters delight that a modern building of such distinction is being sponsored by an official body. (Nobody indeed seems even to have considered any other sort of approach. How far away may seem the battles of the 'twenties and 'thirties.) Second: delight in the clarity and simplicity of form displayed in plan, section and elevation. Third: delight in the fact that



although the office block follows the contemporary stock formula — inevitably, I suppose, since it is the most efficient solution to a stock problem — the human scale has been kept, the effect is not bossy, and the windows (Mumford, please note) actually open. Any reservations? Well, perhaps a few . . . a suspicion that those acres of flat roof will be difficult to handle . . . a personal prejudice against rubble masonry walls and 'racked staircases' . . . and no delight whatsoever in the tensely sprung parabolic arch over the lobby. This is 'Look-no-hands' stuff, inappropriate in a building which the architects describe as 'the embodiment of a great idea.' Certainly UNESCO is a Great Idea. Certainly, too, this will — or could — be a Great Building."

The Architectural Review

October 1952

This month's issue devotes considerable space to an article on wallpapers by Donald Dewar Mills. As a result of reawakened interest in Regency wallpapers following the war, a 25-year "functionalist" revolt seems to have ended, and wallpaper is beginning to be used again for modern interiors in England. Mr. Mills discusses and shows examples in color of a number of good modern papers which have broken from the conventional mode of stereotyped repetition. A small number of manufacturers in England have prevented the field of wallpaper design from completely stagnating, he says, but despite their efforts plus the emergence of new designers plus increasing interest on the part of architects, the general level of design has remained poor. This condi-

(*Continued on page 292*)

47 Marlo DEHUMIDIFIERS AIR CONDITION HUGE "BLOCK TYPE" GOVERNMENT BUILDING

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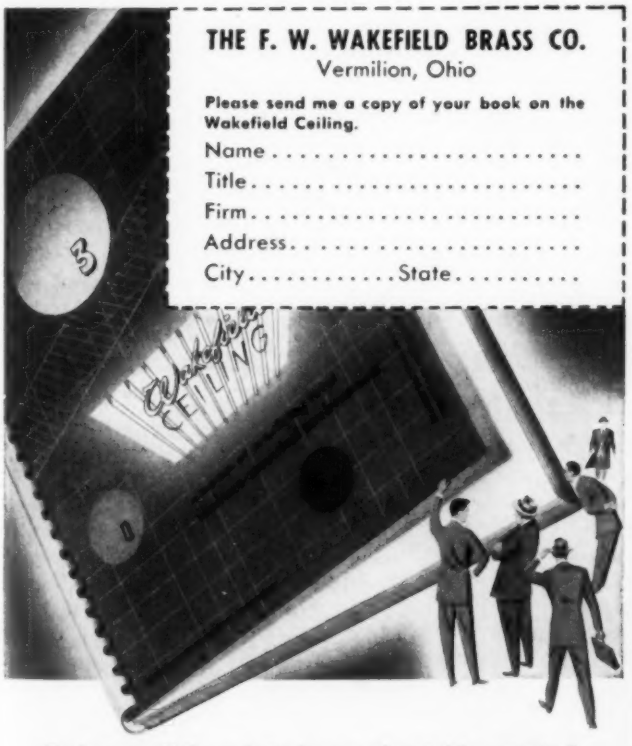

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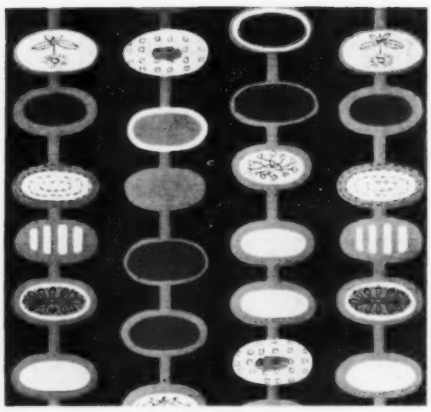
THE RECORD REPORTS

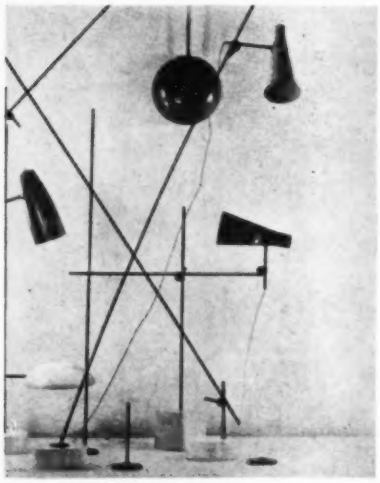
(*Continued from page 290*)

tion is charged chiefly to the "excessive caution" of manufacturers. Some of the new designs pictured are very handsome and are interesting to compare with recent American designs for wallcoverings.

• In "Municipal Rustic," Donald Campbell discusses the problem of the



Illustrations from design surveys in the Review. Left, wallpaper designed by Lucienne Day Below: lamps designed by John Reid. Both are British-produced



increasing encroachment of picturesque rusticism on the urban scene, and while he is concerned with England, much of his material will look and sound familiar to American readers. Mr. Campbell's chief bone of contention is not the employment of such stylistic detail by private owners, but its promulgation for public places by civic authorities. Among the items he has gathered together are a rustic floodlight, a stone "straight-jacket for flowers," several garden fences and a fortified drinking fountain.

• Among the features in the November issue is an article by Christophe Grillet on the work of Edward Prior, who was born in 1852 and died in 1932. Although he is primarily known as a historian who wrote basic works on Gothic architecture and sculpture, Prior was also an architect. In the present article, several of his buildings are illustrated and discussed.

• Gordon Cullen contributes an interesting piece on walls. Instead of treating the visual function of walls in relation to other elements in architectural composition (i.e., spatial relations, etc.), Mr. Cullen deals with the wall itself as an abstracted visual object, in terms of color, texture, pattern and similar factors.

• D. Dewar Mills contributes another design study to this issue, this one dealing with lamps and lighting fixtures and showing new designs being manufactured in Great Britain.

(*Continued on page 294*)

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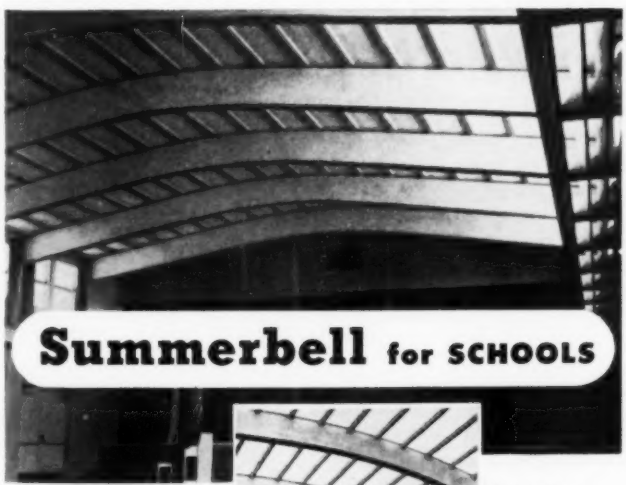

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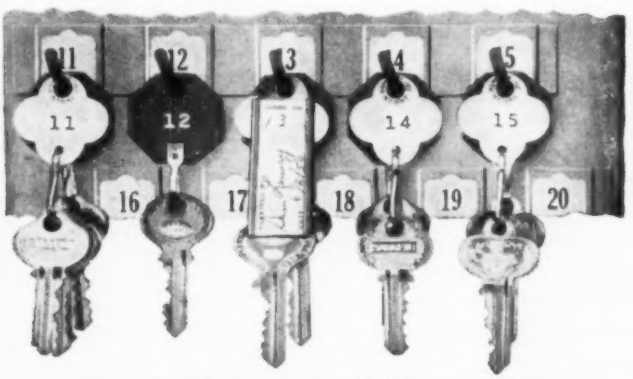

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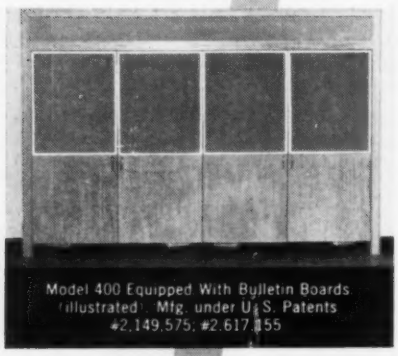

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THE RECORD REPORTS

(*Continued from page 292*)

Byggmästaren

B9, 1952

Three technical articles of interest are to be found in the Swedish publication this month. One of these is a discussion of reinforced concrete floor slabs, with reference to loads and deformations during construction. This

article is by K. E. C. Nielsen. Industrial construction with slide-form is the subject of an article by F. Sundberg, and R. Jison Pontén reports on welded steel structures for house building and methods of testing welds.

Journal of the Royal Architectural Institute of Canada

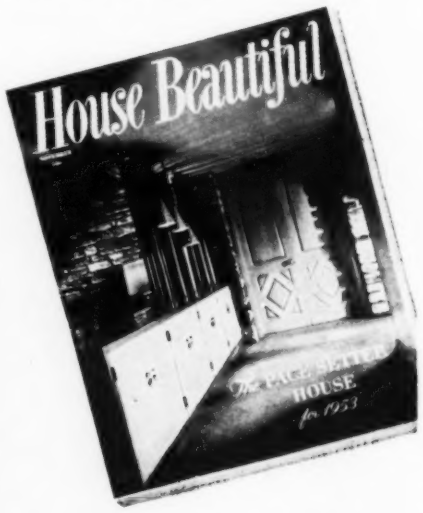
September 1952

The first of two issues of the *Journal* to be devoted principally to housing design includes a 40-page portfolio of material designed to help the Canadian architect assume a more prominent role in large-scale housing design by passing on to him the results of experience of the Central Mortgage and Housing Corporation and other sources. The presentation is based on contemporary Canadian examples, together with comparable examples from Great Britain and the United States.

This month's installment includes information on the planning of housing projects, single houses in groups, row

(*Continued on page 296*)

House Beautiful's Pace Setter House for 1953



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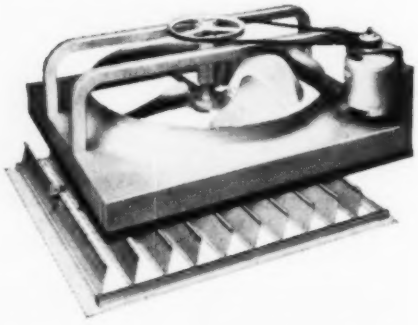

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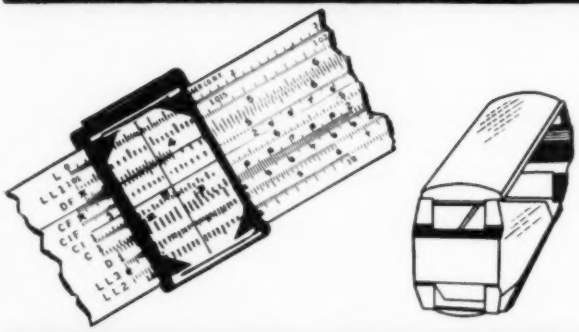

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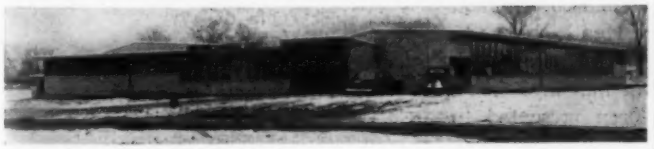

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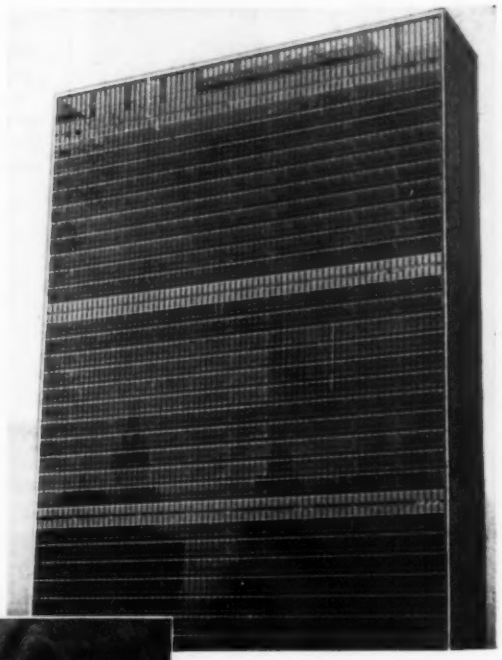

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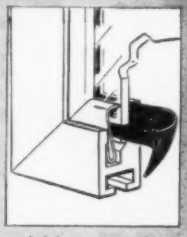

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THE RECORD REPORTS

(*Continued from page 294*)

houses and apartment houses. Basic plan types, cost comparisons and other necessary considerations are included.

AMERICANS ABROAD

• Eero Saarinen's buildings for the General Motors Technical Center in Detroit are given a nine-page feature presentation in *Die Neue Stadt*, No. 10, 1952.

• The residence of Mr. and Mrs. Arch Ekdale, designed by John Rex and the late Sumner Spaulding, architects, and C. Gordon DeSwarte, structural engineer, is featured in four pages of the Japanese magazine *Sinkentiku*, No. 9, 1952. The house was presented to American readers in ARCHITECTURAL RECORD, May 1952, pages 115–121.

• The September 1952 issue of *L'Architecture d'aujourd'hui* includes much Americana.

Among the features contained in the magazine this month are portfolios of recent work by Marcel Breuer (14 pages), Richard Neutra (11 pages) and Twitchell & Rudolph (10 pages).

In addition the issue includes a 24-page study of architecture in Hawaii. The study encompasses the work of several Hawaiian architects in a variety of building types, including schools, stores, houses and offices. It includes articles by Frederic D. Nichols of the University of Virginia and Richard C. Tongg and Loraine Kuck. Architects represented in the presentation include Vladimir Ossipoff, Perkins & Johnson, Law & Wilson, R. E. Windisch, Lemmon & Freeth (with E. H. Hara), Wimberly & Cook, Alfred Preis and Philip Clark Fisk. A number of the buildings shown here have already been presented to American readers in ARCHITECTURAL RECORD (October and November 1951).

• Lever House, Skidmore, Owings & Merrill, Architects, is reviewed briefly in the November 1952 issue of *Architectural Design*. In the same issue a house by Mario Corbett is also given a brief presentation.

• The conference building of the U.N. group in New York is briefly reviewed in *Techniques & Architecture*, No. 11–12, 1952.

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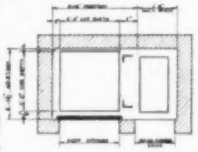

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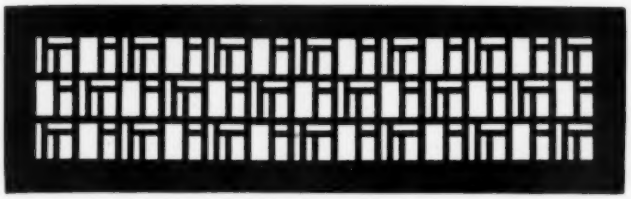

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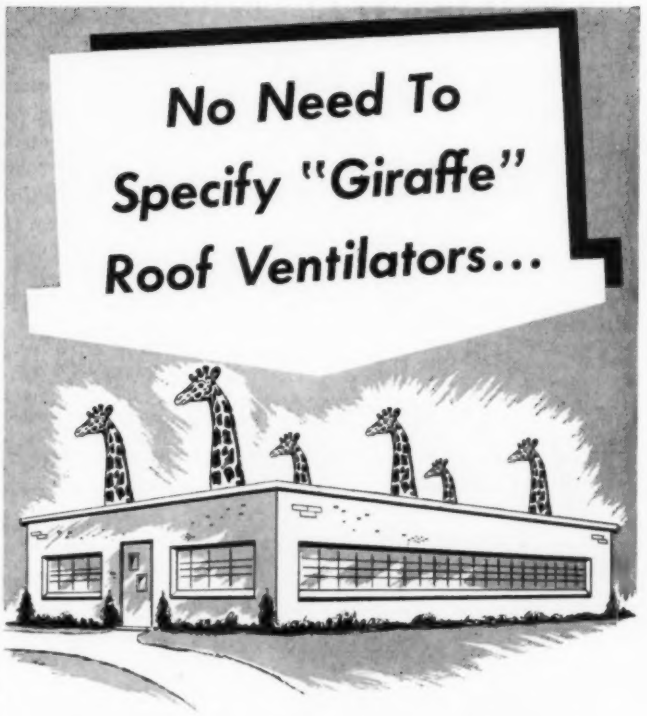

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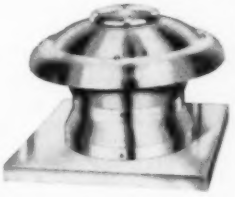

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REQUIRED READING

(Continued from page 48)

tion to this volume from the reviewer's standpoint, it will perhaps not be missed by the user. You will know where to look for a fine collection of contemporary houses which most offices can't locate quickly from the past five years of filed magazines.

A WORLD PANORAMA AND CHALLENGE

Our World from the Air. An International Survey of Man and his Environment. By E. A. Gutkind. Doubleday & Company, Inc. (Garden City, New York) 1952. 10½ by 11½ in. 400 photographs. $7.50.

This visually fascinating volume gives the reader a global panorama of a scope and vividness impossible before man's conquest of the air. The author serves as an able guide and interpreter for the reader's view of the world by way of 400 carefully selected and arranged aerial photographs. Our macrocosm comes into perspective in all its diversity, richness and contrast; from primitive kraal to industrial megalopolis, from jungle trail to superhighway, from rivulet to hydroelectric dam. Thanks to such a medium, the abstraction of the map can now be supplanted by a graphic means which Lewis Mumford describes as "nothing less than a magic helicopter."

The book should be of use to students of regional planning and urbanism, to ecologists, to sociologists. We can also imagine the designer being intrigued by the presentation of such a variety of shapes and patterns, which range from the jagged angularity of rock formations through the flowing sigmoid curves of contour cultivation.

To the responsible reader this book presents a challenge — the problem of what man is to make of his world. Eero Saarinen pointed up the question in his recent address to architects at the Gulf States Regional Conference when he said, "It seems to me our profession has been concerned with and created many beautiful buildings but has taken little responsibility towards our total environment. I mean the picture we see if we turn in any direction and look at our cities or our highways. . . It is time that we put our best thought and energy into what can be done to improve this situation. What can be done to make city planning more effective? What should be done to unify our commercial streets? What can be done to save our roadsides? These, it seems to me, are all problems where we as a profession should lead." James S. Hornbeck.

(Continued on page 300)

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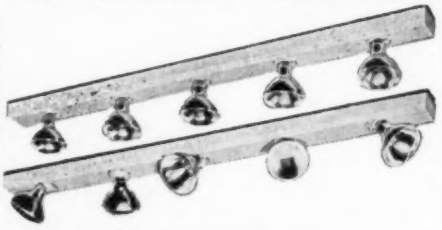

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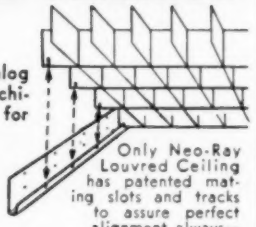

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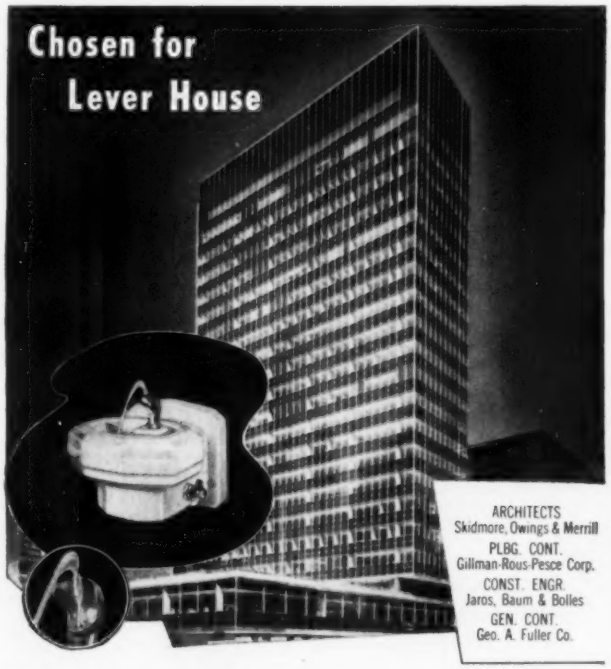

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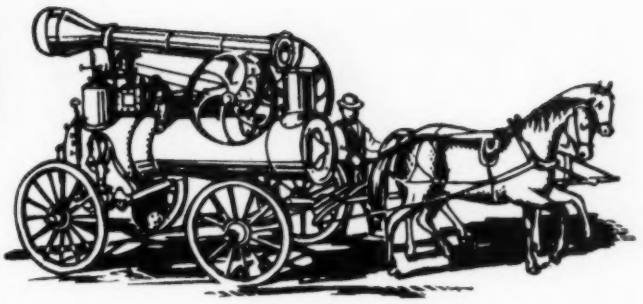

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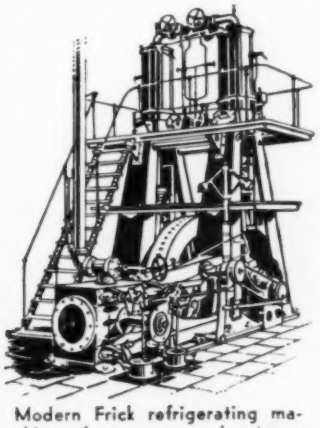

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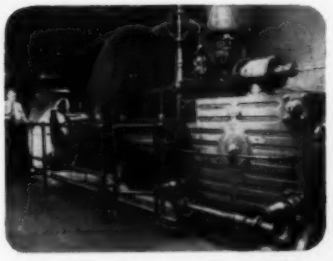

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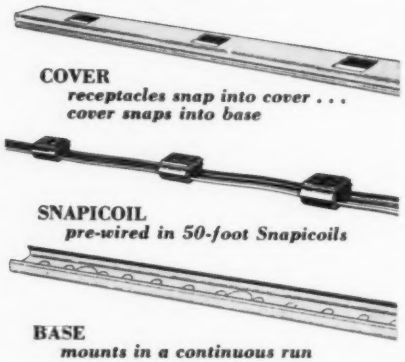

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REQUIRED READING

(*Continued from page 300*)

ARCHITECT—CARICATURIST

Music to My Eyes. By Alfred Bendiner. University of Pennsylvania Press (Philadelphia, Pa.) 1952. 8½ by 11¼ in. Illus.

For some years Alfred Bendiner, a past president, Philadelphia Chapter, A. I. A., has been listening and, more important, watching music as it is played in Philadelphia, and has illustrated the music reviews of the Philadelphia *Evening Bulletin* with visual commentaries on the performances. Now his caricatures have been collected and are accompanied by the artist's own comments.

As a critic himself (he insists he is *not*), Mr. Bendiner runs into a little difficulty. The music's the thing, of course, and is in no way improved by waving hands and dropping forelocks. On the other hand, where's the fun in caricaturing a "natural" artist? The conflict shows now and then in the text.

Mr. Bendiner wages an ardent campaign against all manner of futile affectation on the part of performing artists and, most of all, against the uncompromising seriousness which afflicts so many musical audiences. He may seem to bend a little too far backward to prove that these musical virtuosos can't scare *him!* Mr. Bendiner can relax; there is nothing wrong with his observations.

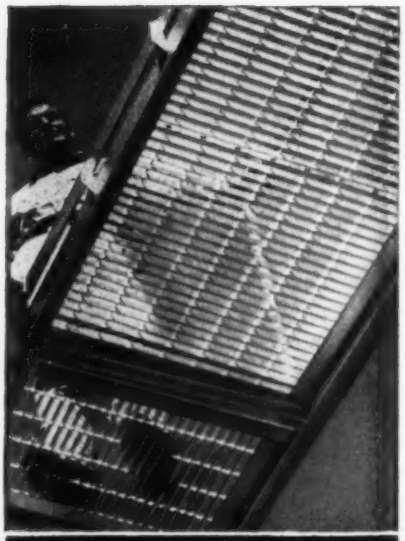
There is, however, nothing self-conscious about the cartoons. With accuracy and precision he captures every expression and every mannerism and gets it down in eminently recognizable black-and-white. Did the soloist profile once too often, did the conductor give too balletic a performance? Tomorrow everyone in Philadelphia will know. These are some of the most apt caricatures to be seen nowadays. Grace Anderson.

COLONIAL CONNECTICUT

Architecture and Town Planning in Colonial Connecticut. By Anthony N. B. Garvan. Yale University Press (New Haven, Conn.) 1951. 8 by 10¾ in. 166 pp., illus.

"Architecture and Town Planning in Colonial Connecticut" is a book that should interest the architect and town planner; it should interest also the historian, sociologist and demographer. For here Connecticut's villages and architecture are examined with careful documentation, charts, maps, photographs and sketches through the social and religious heritage of a homogeneous population.

(*Continued on page 308*)



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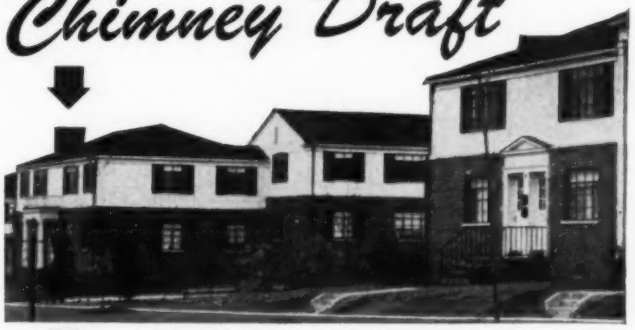

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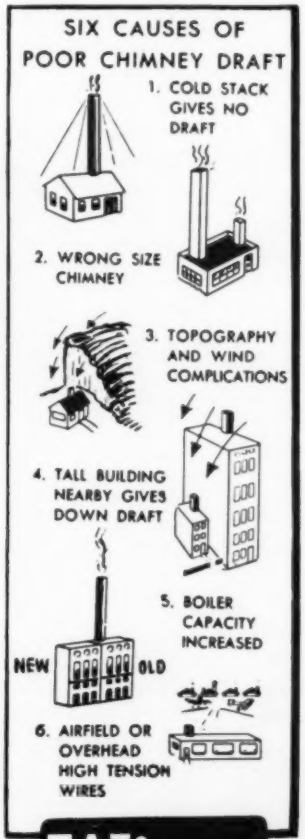
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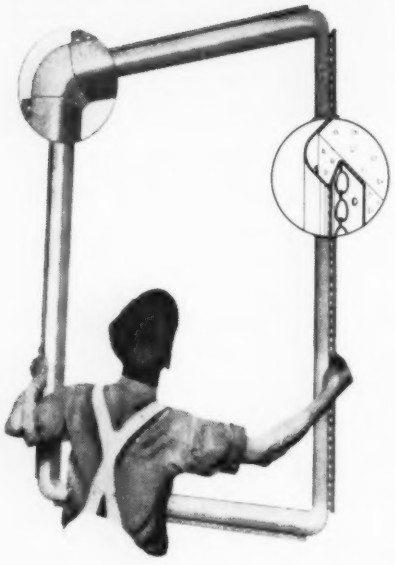

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(*Continued from page 304*)

It was in Ireland that the English town planner, virtually ignored at home, first left his imprint; and there at the beginning of the seventeenth century, the Ulster plantation was developed. Thus by 1635 there had been established a precedent in colonial experiment to be closely followed in such early villages as Fairfield, Milford, Branford, Guilford, New London and Saybrook.

The culture of such settlements remained primarily English, modified only by the hardships and conveniences of its American environment. With the West Indian barrel trade, for instance, thatch gave way to shingles; or again, great areas of available land varied the old interpretation of a closely-knit town plan. The homogeneity of Connecticut's population preserved its adaptation of the English yeoman's home, and plain-style meeting-house, and the architecture of the first settler remained the outstanding influence of the colonial period.

This is a scholarly piece of research in which seventeenth-century maps are implemented by twentieth-century aerial photographs; and the planning of Connecticut is told with the spontaneity of good narration. E. B.

BOOKS RECEIVED

Ames Demonstrations in Perception. By William H. Ittelson. Princeton University Press. (Princeton, N. J.) 1952. 8½ by 11 in. 87 pp., illus.

Australia's Home. Its Origins, Builders and Occupiers. By Robin Boyd. Melbourne University Press. (Carlton, Victoria). 1952. 5¾ by 8¾ in. 287 pp., illus.

Handbook of Designs and Devices. Second Edition. By Charles Pearson Hornung. Dover Publications (New York, N. Y.) 1952. 5¼ by 8 in. 218 pp., illus.

How to Design and Install Plumbing. Third Edition. By A. J. Matthias, Jr. and E. Smith, Sr. American Technical Society. (Chicago, Ill.) 1952. 5¾ by 8½ in. 44 pp., illus.

Legal Guide for Contractors, Architects and Engineers. By I. Vernon Werbin. McGraw-Hill Book Company, Inc. (New York, N. Y.) 1952. 5½ by 8½ in. 374 pp.

The Modern Shop. By Bryan and Norman Westwood. The Architectural Press (London, England) 1952. 7¼ by 9½ in. 183 pp., illus.

Painting Trees and Landscapes in Watercolor. By Ted Kautzky. Reinhold Publishing Corporation (New York, N. Y.) 1952. 7¼ by 10¼ in. 11 pp., illus.

Report of the Commission on the Renovation of the Executive Mansion. Compiled under Direction of the Commission by Edwin Bateman Morris. 1952. 8½ by 11 in. 115 pp., illus.

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THIS book takes up all phases of building a house — earthwork, masonry, carpentry, plastering, plumbing, etc. Tells how to determine costs for every operation; includes data on quantity of material and number of labor hours needed; gives worked-out examples of typical unit costs. As helpful background, it includes structural details and methods of operation for many aspects of home construction. Compares all methods of estimating; gives pointers on the cost summary sheet; shows how to figure exact costs of building a house in any price range, location, or size. Gives full coverage to heating with forced air, one-pipe steam, and one-pipe forced hot water.

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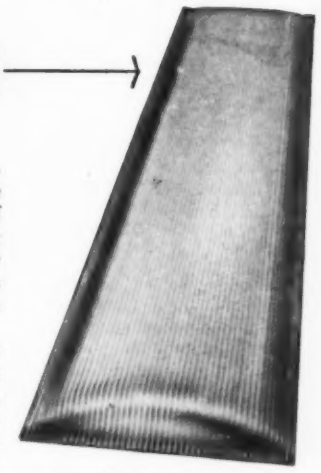

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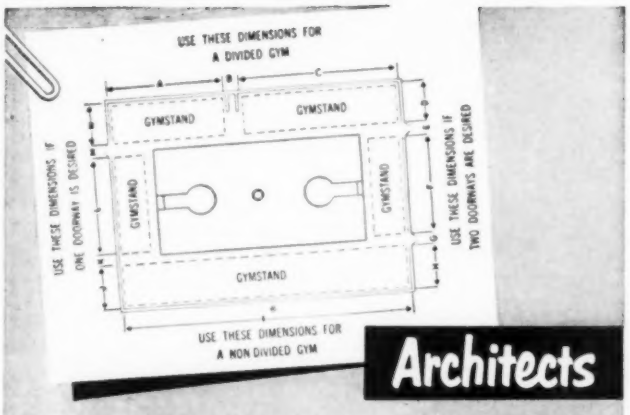
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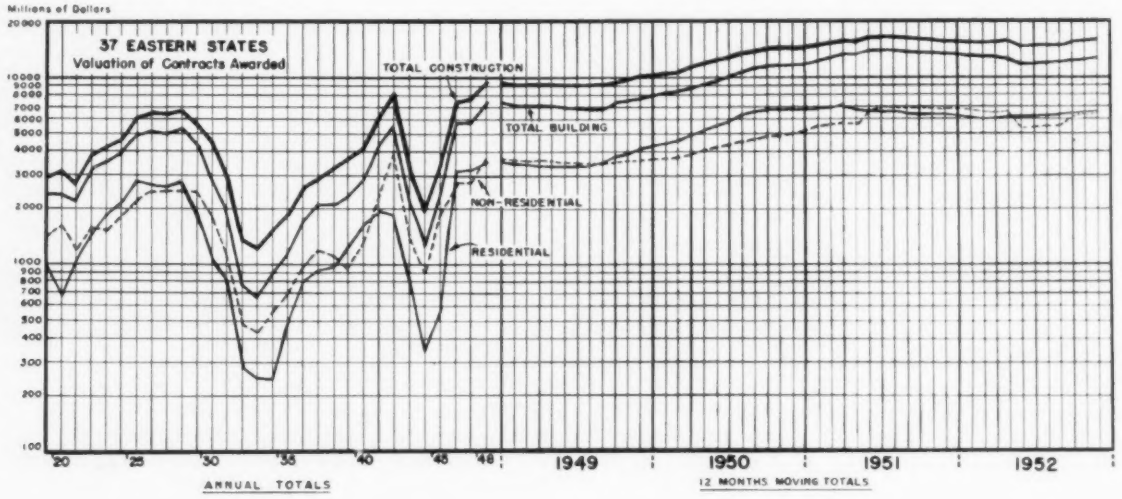

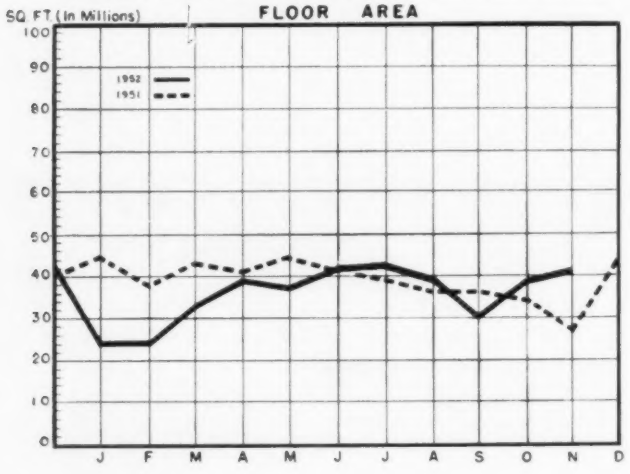

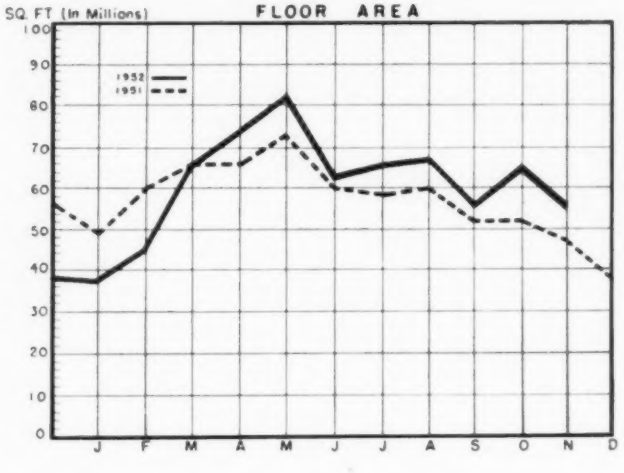

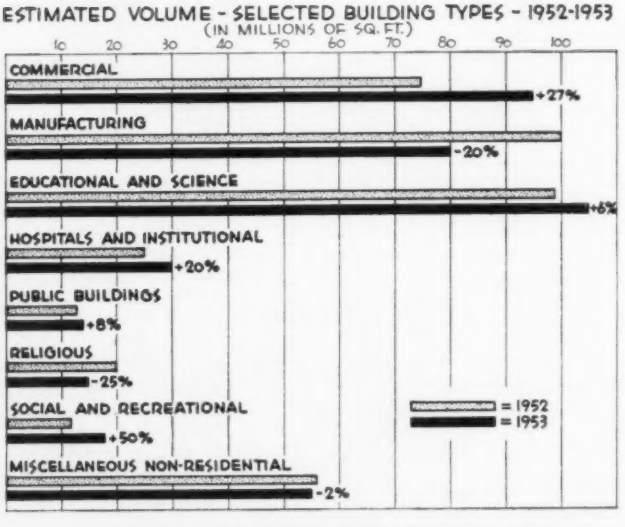

37 Eastern states as reported by F. W. Dodge Corporation

VOLUME HOLDS HIGH AS CONTROLS GO

As 1953 opens, construction prospects are benefiting from a more ample supply of materials, from relaxation of controls, and from a continuation of generally prosperous business conditions. Dollar volume of building and engineering contracts in 1953 is expected to about equal 1952. But as the chart at left indicates, architects will find sharp differences in the trends for specific building types. Recreational buildings may increase 50 per cent. Commercial buildings, hospitals and schools are active types. Manufacturing buildings will show some decline. Residential work is expected to continue at the near million-a-year dwelling unit rate of 1952.